

A NEW
DISCOURSE
OF THE
SMALLPOX,
In^o AND *Shard*.
MALIGNANT FEVERS,
With an exact Discovery of the
SCORVEY.

~~Of the~~ Comprising ~~of the~~
The Nature, Manifold Differences,
various Causes, Signs, Prognostics, Chronology,
and several Methods of Curing the said
DISEASE, by Remedies both *Galenical* and
Chymical; together with Anatomical Observations
and Discourses on *Convulsions*, *Palsies*, *Apo-*
plexies, *Rheumatisms*, and *Gouts*, with their several
Methods of Cure and Remedies. Likewise particular
Observations on most of the fore-mentioned Diseases.

By GIDEON HARVEY, M.D. ^r

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Rebellion, Fellow of the College of Physicians at the *Hague*.

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ADVERTISEMENT.

THe Conclave of Physicians, detecting their Intrigues, Frauds, and Plots, against their Patients. Also a peculiar Discourse of the *Jesuits Bark*: The History thereof, with its true Use, and Abuse. Moreover, A Narrative of an eminent Case in Physick. By *Gideon Harvey*, M. D. Physician in Ordinary to His Majesty. Sold by *James Partridge*, at the *Post-House* between *Charing-Cross* and *White-Hall*, MDCLXXXIII.

There are Errata; as Literals, viz. Acida with an s. instead of c. &c. and some few others, which the Reader may easily amend.



TO THE MOST
M I G H T Y,
AND MOST
INVINCIBLE MONARCH,
Charles II.
KING of Great BRITAIN,
France, and Ireland.

WHen Your People, Great SIR, had
for many Years been Afflicted with
Maniaes, and Fascinated Di-
stempers of their Minds, in a moment You
miraculously Cured them upon Your Blessed
Restauration; a good Crisis, whereof not
the Influence of the Stars, but of Divine
Providence was the Primar Efficient. The
Diseases of their Estates were no less Great
and Dangerous; some had Lost all, others
had Little left; to these likewise Your Unpa-
rallel Justice was a Sovereign remedy, by Re-

The Epistle Dedicatory.

storing to every one what was his Just Right. Moreover, That their Lives might be Preserved from the pernicious Attempts of Empirics, You have encouraged Learned and Experienced Physicians, and to these Your Royal Laboratory sheweth out of what Materials, and in what Manner the best Remedies are to be Prepared; So, as You are the Greatest KING, You are the greatest Physician, whence I have presumed to lay this Treatise at the Feet of Your most Gracious Majesty, humbly craving Your Protection against the Scorvey of this Age, and imploring Your Royal Clemency for a Pardon for this Address, am in all Duty bound to acknowledge my self,

The most Humble,

most Obedient, and

Meanest of Your Ma-

jesties Subjects,

Harvey..

THE
DISEASE
OF
LONDON.

CHAP. I.

*Containing a Premissory Discourse of
the Scorvey.*

I Will not resume, what by others hath so oft been chaw'd upon, and that take for a reason, if I do not tell you a Story out of *Engalen*, *Solomon Albertus*, or *Wierus*, a sort of people, that from one another re-collected a most prodigal number of Sorbutick Symptoms, by the same Rule of Arithmetical Progression, *Galen* made use of in mustering his Centuries of Pulses, an impertinent variety, more imaginary, than perceptible by the subtillest Aranean Tact. By what I here condemn, you may conjecture, I pretend to divulge something parricular, in such terms, as

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shall

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shall as little tire you in the reading, as me in writing. To commence my Discourse from the Description of my Subject, seemeth most expedient, wherein an exactness ought to be aimed at, exceeding what hitherto hath been heeded, which may oblige such, as when meeting with a Distemper, they are not well acquainted with, are compelled to tell the Patient it is the *Scorvey*.

§ 2. *Scorbutus* and *Scorvey* (*quasi* *Scorbey*) are words bastardized from *Scorbeck*, a Westphalian Primitive, denoting a Hoarse Throat, probably a Symptom, that antiently attended that Disease, and in these days is now and then observed a Concomitant, especially among the *Danes*, where it passed by the name of *Schermund*; who moreover being oft rack'd with tearing pains in their legs, gave them the name of *Schorbein*, or Tear-leg. By the way, I must here take notice of a vulgar error, in the Orthography of the word *Scurvey*, which ought to be written *Scorvey*, as being derived from the word *Scorbeck*. The Low-Dutch discerning, it oft exerciseth its fury on the Guts, by causing insufferable Gripes, chuse to call it *Scheurbuyck* or *Tear-belly*; also *de Blawe Shuit*, from those blew spots, that haunt Scorbutick Legs. From the stink of Breath and foulness of the Gums, the *Italians* name it *La Marcia di Bocca*, or *Scornobocca*, implying a corruption of the Mouth. But if it be proper to derive the Denomination of a Disease from its chief Symptoms, the word *Gingipedium* (*crassa & pingui Minerva*) expresseth its nature more amply, declaring it most incommodious (*gingivis & pedibus*) to the Gums and Legs; and it may be conjectured, this kind of Nomenclature was twisted together out of those two Antick words latinized

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nized *σωμαχική* and *σκολοτύρβη*, the former denoting a foulness of mouth, from *σῶμα* κακία; or a foul mouth from *σῶμα κακόν*, the latter being expounded a Disease of the Legs, as may be inferred from *Pliny Histor. Natur. lib. 35. cap. 3. In Germania trans Rhenum castris à Germanico Casaræ promotis, maritimo tractu fons erat aque dulcis solus, quæ pota intra biennium dentes deciderent, compagesque in genibus solverentur, Stomacacen Medici vocabant, & Scolotyrbæ: i. e. The Campagne being removed by Germanicus Casar to the other side of the Rhyne in Germany, there was only one Fountain of sweet water, in a tract near the Sea, whereof drinking, in two years time their teeth would fall out, and the composure of their knees would be quite relaxed; the Physicians called it Stomacace and Scolotyrbæ.*

§ 3. The use of these words seemeth to be of a far ancients date than *Pliny's* age, since *Strabo* a Subject of *Augustus Casar*, in the Sixth Book of his Geography, about the end, relates the Roman Army, that was transported into *Arabia*, to be infested with a Disease called *Stomacace* and *Scolotyrbæ*. *Galen* also in that Book *de Definitionibus Medicis*, makes mention of a *Scolotyrbæ*. But not only, whether those Maladies implied by these two obsolete words, but whether those great Splens described by *Hippocrates de Morbis Intern. 2. Præd. 2. Prægnat.* the Black Jaundice, the *Ileos Hemitites*, or the Black *Vitiligo* (being a deformity of the Skin, haunted with large dusky spots) be not the same Disease Modern Physicians term the *Scorvey*, hath been controverted by most, that have handled this Subject. That each of these have a resemblance in their Causes and Symptoms to the

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Scorvey, needs no debate; for according to *Hippocrates* in the precedent Citation, in those great *Spleens*, *The Belly is puffed up*, afterward the *Spleen* doth also swell, and is hard, and acute pains happen to the *Spleen*, the colour is also changed and looks black, pale, and like a *Pomegranate shell*; and an ill smell cometh out of their mouth, and the gums scent ill and separate from the teeth; and on the legs there break out *Ulcers*, also nocturnal *Pustuls*; and the parts are extenuated, and their ordure is not evacuated. The *Ilios Hematites* is also decipher'd with features not unlike the former: *The Disease*, saith *Hippocrates*, beginneth about the *Autumn*, and therein these things happen: There cometh an ill scent out of the mouth from the teeth, and the gums separate from them; and blood floweth out of the nostrils; and sometimes *Ulcers* break out on their legs, and other things appear, and the colour groweth black, and the *Skin thin*. The curiosity predominating so much among Authors, touching the identity of primæval and subsequent Diseases, might be construed very superfluous; for the result, whether it be so or not, contributeth no more light to the scrutiny of the *Scorvey*, than a *Candle* to the *Sun* at *Noon-day*; though perchance *exercitii gratia*, and for reputation of being versed in Antick Lectures, it may be permitted to be ventilated. The opinion of the major part of the Learned, infers from the near alliance of Symptoms, the *Great Spleens*, of *Hippocrates* to be the *Scorvey*; and some others by the same reason are convinced, the *Black Jaundice*, the *Ileos Hematites* and *Black Vitiligo*, are no other. If this inference be received, *Hypochondriack Melancholy*, *Hysterick Passion*, *Quartan Ague*, and most other *Splenetick Maladies*, may be reduced as *Species* to the *Gender* of the *Scorvey*.

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Scorvey. But upon a strict survey your estimate will conclude, that the distinction of Diseases doth not depend so much on common accidents, as properties; or to speak physically, on Pathognomonies, derived from a Specifick qualification, in their Causes, Parts affected, and Symptoms. Thus the proegumenal cause of the *Scorvey*, though it's vulgarly attributed to Melancholy, or rather Salt vitiated or degenerated to a præternatural, and in that qualification may be a common parent to this, the *Great Spleens*, *Black Jaundice*, and the rest; yet the more nice insinuation of others hath detected the Salts of the Blood so specifically receded from their natural Constitution in the *Scorvey*, and to have indued such peregrine qualities, that they are not capable to give birth to any other Disease than this. Moreover, by most the part affected and hearth of the præalleged distempers, are determined unically the Spleen; in the *Scorvey* the Stomach (by some the *Pancreas*) the Spleen and Liver; and some do also accuse the brain, though *per duteropathiam*. Among the Symptoms the difference is most perspicuous, the exufflation of the Spleen is not always discovered in the *Scorvey*, though in great Spleens never absent: In the *Ileos Hematites* there is loss of blood by Stool, attended with rearing Gripes; which in this distemper is not assumed for a Pathognomonic. The *Scorvey*, is particularly malignant, because it is contagious, and so radicated, that for some months, and frequently years, it doth prædominate over the most potent of Medicines; and Infants oft bringing Scorbutick Seminaries with them into the world, speak it hæreditary; insomuch that on some Families the *Scorvey* hath been intailed with their Estates. These Prædicates certainly are

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not convertible with the fore-mentioned Diseases, and therefore ought not so rashly to be pronounced the *Scorvey*; which moreover is *Endemick*, the others *Epidemick* and *Pandemick*. Thus far no sensible error can be incurred, if upon comprise of the whole, these Diseases are conceded to be *Scorbutick*, in the same terms, as one may aptly explain a *Pleurisie*, an *Empiema*, an *Invererate Cough*, and many other *Pulmonic Diseases*, *Asthmatic*, but not an *Asthma*; unless derived from *Saline Scorbutick Procatartick* and *Proegumenal Causes*.

§. 4. The *Scorvey*, in respect of its primar appearance, seems to bear no certainty in Chronology, since some describe it a distemper, that for some Ages hath harrassed the crazy Inhabitants of the world; others will not allow it a Disease of longer date, than Authors of the last Century record its first budding among the Danes, Saxons, and Westphalians; which is within the time of Two hundred years at most. This latter sentiment is easily supported by this Argument; viz. No Disease described by any of the Greek, Latine, or Arabian Physicians, doth exactly quadrate in Parts affected, Causes, and Symptoms with this Northern *Scorvey*; and therefore may be inferred a new up-start Disease: especially that sort of *Scorvey*, which in my *Little Venus* I term *Epidemick*. Probably an objection may be offered, that since those *Procatartick*, and *Proegumenal Causes*, had their being many Ages past, and consequently an influence on humane Bodies, they must necessarily (according to that trite Axiome, *Posita causa ponitur effectus*) have constituted their effect, viz. the *Scorvey*. To this is replied, History maketh no report of those occasions, that are im-
power-

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powered to produce this Malady. The Gracians, among whom those great Spleens of *Hippocrates*, being nearest of kin to the Scorvey, were so popular, lived in a benign air, and were constantly employed in Warlike Exercises, whereby they were diverted from Melancholy, or other dull Passions, from Excess of Sleep or Sloath, and other inconveniences: so that those External Causes that now concur in the production of the Scorvey, had no prevalence on them; and therefore improbable, our Distemper should have been ingendered then, or any time before. But waving other Causes, and considering only, it is an *Endemick* Disease, which hath its chief dependance on the Air, and particular disposition of the Clime, wherein alterations happen by evaporations from Sea or Earth, and Coelestiall Irradiations, which being so various and frequent, it's no wonder, if the Scorvey be a recent production, or if every month or year Diseases of new aspects emerge.

CHAP. II.

Of the Mouth-Scorvey.

INTo two great branches the *Scorvey* seems to be divaricated, namely a *soul Scorbutick Mouth*, or rather the *Mouth-Scorvey*, and *Scorbutick Legs*, or *Leg-Scorvey*; to which very aptly a third may be added, to wit the *Joynt-Scorvey*. The former consists of Swelled, Laxe, Spungy, Discoloured, sore Gums, loose Teeth, that in process of time do inevitably rot or cariate, and a stinking Breath;

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which as they ascend through various degrees to an extremity, do render the disease very incommodious, having observed the tumefaction of the Gums in some so luxuriant, as to obstruct the Lips in closing, appearing more like a *Fungus* grown to the Jaw, then Gums; on the contrary in others the Gums have been intirely corroded away, so as the *γόμφωσις*, or juncture of the Teeth, and Jaw, might have been evidently discerned; and you may receive it for a truth,, that the corrosion was continuatd with that rapid violence, in the Lips of a certain Scorbutick Dutchman, who for cure was admitted into the Hospital, at *Leyden*, that being quite devoured, the Teeth were left bare, and exposed to the Air: wherefore note, that the first degree of a foul or putrid Mouth is a swelling of the Gums, through a thin serous or ichorous blood, soon after disposed to be pressed out of its bounds, with the least touch of a Finger, insomuch that it's frequently observed, that Scorbuticks biting a piece of bread, the remainder in their hands will appear all bloody about the edges: Hereupon the Gums fissure or cleave, afterwards changing into phagedænick Ulcers, which not seldom are succeeded by malignant cancerous Ulcers, threatening an extreame deformity and devoration of all the circumjacent parts.

§. 2. More than once I have given advice for little hard unæqual swellings about the inside of the Lips, sometimes under the Tongue, of a livid, or not infrequently of an ash colour and dolorous. These by Chyrurgions are termed *Cancers* of the Mouth, and indeed are little less than Cancerous, and consequently Scorbutick. Neither
would

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would I have you judge it a Paradox, if I assert an Endemic Cancer in whatsoever part, to be an extreme degree of a *Scorvey*; as hereafter may be more plainly represented. Of the nature of the p^ræmissed Cancers in the Mouth, doth participate a *Rizula*, a Tubercle under the Tongue, so called, because being an impediment to the free motion of the Tongue, in pronouncing words that contain the Liquids *L* or *R*, it occasions them to sound frog-like. The Cure hereof is usually attempted by Astringents and Acids, as Oyl of Vitriol and others, whence seldom or never a success being answered to the intention of the Chyrurgion, converts his hopes to the sharp Steel, or the Fire. But were it supposed scorbutick, as many other signs accompanying, do certainly evince it to be, might infallibly perform the Cure by a scorbutick Topick.

§ 3. A vagous recurrent Tooth-ach; especially in Women, doth often act a part in the *Syndrome* of a *Mouth-Scorvey*, which in distinction to the ordinary Tooth-ach, hath concomitant a very grating pain, with a violent salivation of thin saline Rheum; and as it is that, which for Cure hath been an *Opprobrium Medicorum*, for their frustraneous applications, so the most facile and indubious method of solaging this pain by Antiscorbuticks, is an argument, there hath been a Hallucination, in discerning the true cause of it.

§ 4. *Grandinæ*, or little whitish hard swellings, of the bigness of a Radish seed, with a small perforation in the middle, and running about the Tongue, Gums, Palate, and inside of the Cheeks, is a Scorbutick Thrush, and cured only by Antiscorbuticks. And those that have been curious observers in their

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practice,

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practice, can attest, there is a periodical swelling of the *Tonsils* (or Almonds under the Ears) and a relaxation of the *Uvula* and Palat, which must be accounted amongst the Diagnosticks of a *Mouth-Scorvey*; and such being render'd infinitely worse, by the use of ordinary astringents, I have cured with a Gargarism of *Betony*, *Sage* and *Scorvey-grass*, *Elder* and *Rosemary-flowers*, and *Nettle seeds*, boyl'd in white Wine and Water, with a few drops of spirit of *Sal-armoniac*, instilled into the decoction; but not without assistance of Internal Medicines.

§ 5. The discoloration of the Gums in a *Scorbutick Mouth* first appears in a deep red, afterwards in a spotted yellow, then dusky and leadish, and at last a cadaverous pale, or a cancerous black. The Veins about the Gums, under the Tongue, and the inside of the Lips, shew unequal, swell'd and ill colour'd. The soreness of the Gums feels sometimes burning, or as if prick'd with Needles; other times the pain lies deep about the *Periostium*, or Membrane of the Jaw, not unlike the Tooth-ach.

§ 6. Among the Pathogonomonics of a *Mouth-Scorvey*, none is more certainly concomitant than a Stinking Breath; insomuch that it is beyond all contradiction, where there is a continual stink of Breath, (evident causes, as Ulcers of the Mouth, Throat and Lungs always excepted) there is a confirmed, or at least a growing *Scorvey*: and among all those *Scorbuticks* I ever was concerned with in relation to their cure, I never found that symptom absent; which if by the course of some years it be established in a deep radication, is refractory to all cure; if recent, all hope is reposed in a strict *Scorbutic* method. And for this so ungrateful

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ful symptom, the sole Specifick is the Urinous Spirit of *Sal Armoniack*. Now upon the Assumption that the *Scorvey* is an *Endemick* Malady to our Island, you must suppose a stinking Breath very popular, which indeed will not be disputed by one, that possesses the right use of his Nose; and those that are exquisitely sensible in that Organ, shall tell you, that the Cabins of Ships expire a stronger Air of Scorbutick stinking Breaths, than of Pitch or Tar.

§. 7. This Chapter we will limit with the subnexion of another Scorbutick Symptom, not much receding from a stinking Breath, *viz. Fists* in the Angles of the Mouth, and root of the Gums, which being squeezed three or four times a day, render a very putrid matter, the spring whereof is ordinarily prehended in a Scorbutick small Glandul.

C H A P. III.

Of the Leg-Scorvey.

§. 1. **T**HE *Scorvey* particularly exerting its enmity on parts so distant as the Mouth and Legs, speaks it a Disease, requiring a more distinct Consideration; and therefore as in the former, so in this latter is designed to give you a very articulate Description: but observe by the way that a lassitude and feebleness of the Knees is common also to a *Mouth-Scorvey*.

The *Leg-Scorvey* comprehends a great lassitude and weakness of the Knees and Ankles, spots and blotch.

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blotches of several figures and colours on the Shins, and particularly just below the Knee, and also near the Ankles, Pustuls, uneven Tumors and Tubercles of Purple Variegated Red. Oedematous Legs, with thick, hard, callous, livid, or sometimes brown red Skin about the Ankle, ulcers on the Shin, and near the Ankle, pains of the Knees, likewise deep pains along the Shin-bone, continuing all day, but raging most in the night, are all frequent concomitants of the *Leg-Scorvey*.

§. 2. The feebleness of the Knees and Ankles coming gradually upon you, without any evident preceding Disease, or any sudden alteration of looks, or habit of body; is an *Item* sufficient to inform you what's at hand: Namely, Spots first red, and then yellow, livid, and at last of an ash colour; upon this expect blotches along the side of your Legs, appearing first reddish, then yellowish very like an *Erysipelas*, but yet different from it, because there is not that heat and smart in Scorbutick blotches; neither are they so fiery, or corroding, as to be converted immediately into ulcers, but grow rough and peel off. These generally are succeeded by pustles, turbercles, or botches and tumors; at first of an uncertain colour, in one part deep red, in another pale; though upon a small interval of time turn deep red all over, growing exceeding painful and hot, a sign of their being ready to burst out into Ulcers, or nasty Scabs.

§. 3. Scorbutick ulcers, especially those on the Shins, and near the Ankle, upon a short continuance grow callous about the Lips, within painful, as if prick'd with Needles; their flesh appearing torn, uneven, of an ill aspect, the Lips tumid, the matter

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ter undigested thin, and ichorous, at length turns sordid, phagedænic, and cancerous; the bone underneath contracts a *Caries* or *Spina Ventosa*.

§ 4. *Scorbutic Leg-pains*, either haunt the Tendons about the Knee and Ankle, or the Membranes of the Muscles, or the *Periostium*. A Tendinous pain, is a shrinking or contracting soreness; that of the Membranes of the Muscles sharp and distending, that of the *Periostium* contunding and grating.

§ 5. To these add a *Varicous Leg*, when the Veins are Tumefied to an extraordinary Protuberance. The Effect of all these præmised Symptoms doth for the most part Result into Gross, Deformed, Tumefied Legs, some appearing full of Botches, others Tumefied, so as to pit upon the pressure of a Finger, and variously Discolour'd all over, like the Shins of those, that sit too near the Fire in the *Winter*; such Monstrously Tumefied Legs are frequently observed amongst *Dutch Skippers*.

C H A P. IV.

Of the Joynt-Scorvey.

§. 1. **T**Hat they are incommoded with an Universal Soreness of Limbs, especially Arms, Shoulders, Neck-bones, and along down their Back, about the Brest, and round the Middle, with a Lassitude, or Weariness, and no Disposition at all to stir or move, but inclined to Drowsiness and Heaviness, is the Complaint of many, upon the least alteration

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teration of Weather, who beyond all (peradventure) must be termed troubled with the *Joynt-Scorvey*; provided the said Lassitude be not such, as ordinarily is a præcursor to a Fever. Neither is this Species, or sort of Scorvey only circumscribed with the prænumerated symptoms, but is also applicable to those, whose Articles or Joynts are subject to Crackle upon a sudden motion.

§. 2. The Scorvey infesting the Joynts, doth by means of an Afflux of Virulent Humors, not seldom produce gross Tumors or Tubercles, of a fiery purple appearance, and a very painful Sensation, to which is consequent an Immobility of the Articles, and not long after the Skin being so Cancerously tumefied, as frequently happens about the Joynts of the Fingers, Knuckles, Wrists, Elbows, Knees, Ankles and Toes, is perforated by an Isthorous, Raw, Indigested, Thin, Serous, Livid, and sometimes yellow *Sanies* or Matter, which Gleetings through a small Orifice, that soon grows Callous, and therefore not being totally and freely Evacuated, occasions the Bone to Cariate, which commonly by Exfoliation, or rather Corrosion, Nature doth expel in little shatter'd mouldering splinters. The impure Nutriment the Conception assumeth in the Womb, rendreth children more subject to this kind of Scorvey, than others of Riper years, and is vulgarly stiled the Joynt-Evil, and some will know it by no other Name than the Kings-evil, which properly denotes only Scrophulous and Strumatick Kernels and Tumors, though beyond all scruple are of the same Production with the former, and consequently highly Scorbutick. Neither are a *Fistula Lachrymalis*, and other malignant Issues near the Angles of the Eyes, or those *epiphora's*, or running
of

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of the Eyes, different in Causality and Constitution from either of the fore-mentioned.

§ 3. Another sort of Joynt-Scorvey is specified in Rheumatisms, which generally declare themselves by pains of the Joynts, or rather in some by Tortures of the extream Articles, as Wrists, Knuckles, Joynts of the Fingers, Elbows, Shoulders, Hips, Knees, Ancles, Toes, and worst of all, when the impetuous flood of Salin Rheum streams to the Neck, and Back-bone. (*Spina Cervicis & dorsi.*) Pains of this Nature are so Violent, that for Acuteness are not parallel'd by ordinary Gout-pains. In like manner this sort of Rheumatism doth oft rudely afflict the sides of the Head, decurring from the *Bregma*, to the upper and lower Mandibles, and Roots of the Teeth, shooting like Darts from one part of the Head to the other, and with so quick a Percussive motion, that Lightning and Blasts seem slow to it.

§ 4. Practical Observations declare to us a two-fold Rheumatism, External and Internal. The former is just now præmised: the latter is discovered by Internal, Acute, Fugitive pains, moving Erratically from one Bowel to another, thence possibly to the Guts, and thence again it may be to the Ambient Skin, or to some other Bowel, or the Brest; the quality of these Internal pains, is for suddain and violent Motion, resembling External Rheumatisms; and for Acuteness, forceth the Patient to screech out, lamenting his pain, now in one place, presently after in another, and suddenly again in another, to no small Amazement of his Visitors; since for a small interval being free from pain, feeling himself very well, and entertaining his Friends with Discourse, on a suddain

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sudden a shooting pain shall take him, and alter the Scene to a contrary Disposition. Internal Rheumatisms are generally of a tedious continuation, though the pains are far more brisk at one time than another, and sometimes do make a Truce with the Patient for a few Days or sometimes Weeks, but in the interim detain him in a neuter Estate, which can be determined neither well nor ill, but weak; and thus I have heard of several, whose Recovery was scarce accomplish'd in several Years; but that might partly be imputed to the ill address of the Physician, being unskill'd in managing that Disease.

§ 5. Among divers Joynt-Scorbuticks, it hath been Remarked, their Bones have been very Frangible, that upon very small occasions, they have had the misfortune of breaking their Legs, Arms, Bones of the Hand, and Fingers; but before this can arrive, another Symptom doth ever precede, namely, a Cracking and Noise of the Joynts, when they are moved. It argues him much a stranger to Practice and Experience, that never observed an Arthritick or Gouty-Scorvey, being such a sort of Counter-natural affection, as besets the parts near the Joynts with *corrosive* Salin Ichors, and through them attacks them with very Lacerative and Terebrating pains, and such as commonly in the Night season Duplicate their Fury. In this Disease, as it's Genuine distinction from other Gouts, would certainly very much conduce to the solacement of the Patient, and his compleat Recovery; so it would no less add to the reputation of the Physician, and therefore shall in their places amplify upon its Description, Causes, Signs and Cure.

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§ 6. Two Bones being tied together, that place where they meet is properly termed the Joynt, from being joynted together, or Juncture, or Articulation. Physicians also stile it an Article, but improperly, the word *Articulus* Importing a Diminutive of *Artus*, Latiniz'd from ἀρτῶν, a Member. Moreover, Bones that are Diarthrotically joynted, are fastened together, besides particular Ligaments, by a common Ligament or Band growing usually from the lower part of the Apophyse of one Bone, and inserted into the upper part of the Apophyse of the other Bone. This common Ligament or band is in point of substance rough, thick, dense and extensive, and by reason of its close Compacture, and immediate Adhæsiion and Circumvesture, doth refuse passage to all Arthritick humours, whence may be Deduced, the Gout is not properly to be termed a Joynt-disease; whereunto this Instance contributes an unquestionable Evidence, that the Internal parts of the Joynt being Cartilaginous, and the Ambient parts Ligaments, are both insensible and incapable of Sensation: so that we must conclude the Universal Sentiment upon this particular a vulgar Error, growing from an Inadvertency and blind Ignorance in *Anatomy*.

§ 7. We are therefore to state the Parts nearest adjacent (above or below) to the Joynt, the seat of the Gout, which by reason of the termination of the Tendons, and Circumvesture of the *Periostium*, are exquisitely sensible, and exposed to the greatest Tortures.

§ 8. The Joynts that are most commonly haunted by the Gout, are the Hip, where it's called the *Sciatica*, or Hip-Gout, the Knees, where it's termed

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med the Kuee-Gout, or *Gonagra*; the Feet, which comprehends also the Ancles, and here it's nam'd the *Podagra*, or Foot-Gout; and the Hands, including also the Wrists, thence call'd *Chiragra*, or Hand-Gout. Besides these, most other Joynts, as Shoulders, Elbow, and Back and Neck-bones, are sometimes also attacqued by those furious pains. Why these last recited Junctures are not so much expos'd to Gout pains, as the former, is, because being wrapt about with fleshy Tendons, and Muscles, receive thence a great assistance of heat and warmth, whereby the temperament of those parts are much comforted, the External cold resisted, and those Saline Acrimonious Ichors soon dissipated.

The periodical Revolutions of these Arthritick Scorveys, are an argument to me, they are subject to a Prædominance of both the *Luminaries*: For from the seasons produced by the Suns Peragation, they are resuscitated Spring and Fall; and the *Lunar Circuits* occasion their appearance, and return in many bodies as ordinarily, as the monthly Maladies of Women, scarce any Sex or Age under Twelve or Fourteen, being exempted from the fore-mentioned *Arthritick Scorvey*; but it's otherwise in the Gout, which ordinarily rather invades the Crazie bodies of super-annuated persons.

In contradistinction to an *Arthritick Scorvey*, that's fixt to a part, *viz.* To the Hip, Knee, or Foot, as hath been just now præliminated; there is also observed an *Arthritis vaga*, or fugitive Arthritick Scorvey; but this being not different from an External Rheumatism, whereof hath been mentioned before, shall supersede any further Explanation.

It will hardly escape the Animadversion of many Perusers, that I have beyond the sentiment of other Physicians, reduced the præternatural affections treated

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treated of here in this Chapter, within the Latitude of the Scorvey. Wherefore that I may not deserve a sinister Censure, I will offer those arguments, that to me were sufficient Motives, which if to others they seem less persuasive, I need only tell them, I may with as much right range them in the Train of the Scorvey, as *Eugalen*, *Solomon Albertus*, *Wierus*, and twenty more have given place to half the known symptoms of the Diseased body of Man, in the List of *Scorbutick Attendants*.

Touching the insertion of the *Scorbutick Lassitude* in the first Article, all Authors that have treated on the *Scorvey*, have granted that symptom almost so universal as to be a *Pathognomonick* inseparable.

In relation to that of the second Article, most may find difficulty, to Identify it with the *Scorvey*, since it's not easie to discern one and the same Disease, to be the same in two or more several Patients; much less a Disease that's so various and multiform, featured with several shapes and signatures in several subjects: Wherefore I must be obliged to a recital of certain marks, and received rules, whereby Authors do either Diversifie or Identify Diseases.

Causes of the same Nature and Efficiency, though Univocal, do not alwayes produce the same Effects, and therefore consequently (though two or more Diseases are engendered by the same efficient, and out of the same matter) they may be different Diseases, whence may be objected, that those Joynt-Diseases, though issuing from the same Causes the *Scorvey* is derived from, it's no argument they should be termed the *Scorvey*. By this Assertion, the Peripatetick Maxim seems to be suspected, *viz.* *Posita causa, ponitur effectus; ergo posita causa Scorbutica, ponuntur effectus Scorbutici*: And all Diseases
that

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that are produced by a Scorbutick cause, must be the Scorvey.

You must observe the truth of this Theorem doth depend upon certain Limitations, namely, a cause to be qualified to produce the same Effects, must be Univocal, and *à causa per se*; for otherwise (though granted Univocal) its casuality may be *per accidens* depravated, and Occasioned to an Aberrancy by other causes: For instance in the Scorvey, imagine it's Production from a corrupt Melancholy, that may Stagnate in the Spleen, which being supposed in two several bodies; in the one possibly it may constitute Symptoms, that are commonly Concomitants of the Scorvey; in the other, because there may be a mixture of vitiated Choler, or of a *Serum* affected with an ill Quality, or a great infirmity of some Entrail; the aforesaid supposed Scorbutick cause shall be so Obtused, altered, or Indued with a different Efficiency, that the Diseases so produced, shall be no Scorvey, but some other Counter-natural affection. This may also very properly be exemplified in celestial Causes, among which conceive a Planet in such a Sign, and such a Degree, by his influence to produce certain Effects, upon any supposed Sublunary body; as its return to the same Sign and Degree, possibly it shall not be a cause of the same Effects, because through the Radiations of other Firmamentary Lights, it's influence shall be directed and limited to another Effect much different: Whence having rendred the Ground of the Variation of Symptoms in the body of man obvious, my next affair is to propose a Theorem whereby Diseases are Identified.

Diseases are computed the same, that are constituted by the same Univocal Causes, not aberring further *per accidens*, than those symptoms that are effected.

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effected *per se*, may in number and specification exceed those, that are produced *per accidens*. Moreover Diseases by their Intrinsic signification imply Parts primarily affected, whereof they are Diseases; and therefore Diseases cannot be Identified, unless the parts affected primarily be the same; which we must now explain to be the same in the *Scorvey*, and in the *Joynt-Evil*, and *Gout-Scorvey*. None vary from this Opinion, that the parts Primarily and Originally affected in the *Scorvey*, are all the chief parts of the *Inferiour Cavity*, that appertain to the *Natural Faculty*, whose office is to Confect the Chyle, Elaborate and Depurate the Blood, which are the Stomack, Spleen and Liver.

The Chyle in those, that are afflicted with the *Gout* and *Joynt-Evil*, receiving a Malign Tincture and Impression, from an ill qualified Dissolvent, is a pregnant Evidence, the Stomack is a part affected; and the aforesaid Chyle upon its arrival within the Spleen and Liver, induing a quality of a Malignanter efficacy, expressly proves, both those Entrails equally parts affected, and consequently the parts radically or primarily affected are the same.

Neither can I discern any difference in the Causes of both, residing in a corrupt Salt, fixt or volatil. It must then be the difference of symptoms, that creates suspicion of the Diversity between these Joynt-Diseases, and the *Scorvey*, which as was intimated before, may be remarked in all Universal Diseases, varying in two or more Bodies, in several symptoms, and yet are deemed the same Disease: A continual acute Fever (which I call an Universal Distemper, because its symptoms are Universal, and disturb all the parts of the Body in their several Functions) in one is attended with Vomings, in the other with a Looseness, in a third with neither;

ther; which nevertheless, are known and determined Concomitants of a continual acute Feaver in all. In this Labyrinth, the Position stated in the beginning of this Paragraph, conducts me to an Expedient of surpassing the difficulty, *viz.* The symptoms that Identify Diseases, do immediately, and *per se*, emanate from them, in or near the parts affected: For instance, if the Heart be seized with a Disease, the Pulsation doth generally express it, being a symptom that immediately consecutes the Distemper in the part affected, which is the Heart; the like may be observed in all Diseases. These must be such as properly are terms *Pathognomonick*, and by Industry, and frequent Experience, may be discerned in most Distempers, though symptoms that are occasioned *per accidens* are infinite, and common to many Diseases. Now to our Affair; In the recited *Joynt-Diseases*, and *Gout Scorvey*, the radical symptoms are an ill Confection of the *Chyle*, or a violated Elaboration or Depuration of the *Chyme*; a propagation of Malign Seminaries, in the Bowels and Blood, that renders Diseases contagious, hereditary and most obstinate; these being likewise symptoms in the *Scorvey*, I judge I have justly Identified them; but that will more amply appear in my subsequent Discourse. Add hereunto, that in Identified Diseases, the Procrastick causes are the same, which in these various kinds of the *Scorvey*, is verified in a salin Air and Diet, whence both the Internal, Antecedent and Continent causes afterwards take their Original, which also for a certain space continue the same, until, that by a continued morbidick Action and Calcination, they pass into a contrary nature, from an *Acid*, to an *Alkali*, as among *Chymical* processes, appears in *Acid Tartar*, which by Calcination makes a Transition into

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an Alcalious Salt of Tartar; nevertheless as the *Acid Salt of Tartar*, and the Alcalious Salt of Tartar, though contrary, do both retain the same name of *Salt of Tartar*; so an *Acid Scorvey*, and an *Alcalious Scorvey*, retain the same Denomination of a *Scorvey*, or are Identified in the same Name. Before I limit this Chapter, I must propose an Argument of a greater Consequence, namely, That those *Joynt-Diseases* and *Gout-Scorvey*, are only to be removed by an Antiscorbutick course; but not such as is directed by the præscriptions of the Vulgar, who are as blind in these Distempers, as they commonly are in Feavers and *Small Pox*.

CHAP. V.

Of the Causes of the Mouth-Scorvey.

§ 1. **B**Y a scrutiny into some Procatartick and Occasional Causes, we may possibly be conducted into a Path, of discovering the Immediate and Continent causality of the *Mouth-Scorvey*; and therefore converting our Observation on the Effects of the *Spirit of Vitriol, Nitre, Vinegar, &c.* We shall on the estimate of the use of any of them, mixt with Powders into Dentifrice, or Instilled into a Liquor for a Collution of the Mouth, award, they are as offensive as any Internal cause, by rotting and blacking the Teeth, raising Pain and Swelling in the Gums, and moving a thin Sputacion.

§ 2. *Mercury* externally by Confriction forced into the Pores, or internally taken in the form of a
subdued

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subdued *Sublimate* or *Præcipitate*, soon Ravages the Mouth, exactly like a *Scorbutick Cause*, since it forces up a Humor from within, that swells, fissures, Ulcers, pains the Gums and the Mouth, looseth and rots the Teeth, salivates, and occasions a foul stink of Breath; all which symptoms, if we can demonstrate to take their rise from *Effluvia* issuing from an Acid Salt, Mercurial Preparations have all their dependance on, and which within their most intime and central Particles, do contain a most subtle Vibrating and Volatil Salt, will result into a præmiss, whence no Ingenious Reader, but with me, will conclude a *Mouth-Scorvey* to be Engendred by a corrupt Acid Salt rendred fluid, and a Volatil Salt converted into corrosive, inordinate in motion, and united with a Fuliginous Salt. That you may be convinced of this *Hypothetick* proposition, take Inspection into the various processes of Mercurial Elaborations, where you find *Mercury* fixt (but very imperfectly) into *Præcipitates*, *Sublimates*, *Spirits*, and *Salts*, of divers shapes and colours, viz. Into *White*, *Red* and *Yellow Præcipitates*, by *Aqua Fortis*, (*Spir. Nitr. Spir. Sal. Ol. Vit.* all which, take notice, are vehemently Acid; and thence conceive, that the Volatil Salt, or Fugitive Spirits, latent in *Mercury*, are only to be tied by an acid *Vinculum*. If upon this you design to reduce *Mercury* (whether *Præcipitate*, or *Sublimate*, or any other Preparation) to its former shape of *Quick-silver*, it's easily attained, by freeing it from that acid *Vinculum*, in mixing it with a proportion of *Calx Viv.* *Gypsum*, *Soap-ashes*, *Sal Tartari*, &c. and driving it through a Retort, whereunto it readily yields by means of those Alkalized, or fiery fixt Salts, mortifying the *Acid*. So that by the Rule of Contraries, if an *Alkali* reduces *Mercury*, the Consequence is, it was detained by an *Acid*.

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§ 3. The Sequel is farther illustrated in the preparation of *Sublimate Corrosive*, the *Quick-silver* being first grinded with *Salt Peter*, *Vitriol*, or *Common Salt*, wherein being latent a most potent *Acid* (as appears by their Reverberatory distillations) doth soon invade and penetrate the body of the *Mercury*, and thereupon encountering with it's most subtil and fugitive *Minims*, arrest, and in some degree doth fix them, qualifying their Volatil levity with its ponderous *Acid*, and therein it's discernably assisted by affusing a few drops of distilled Vinegar, or other Acid Spirit, whilst the Salts and *Mercury* are grinding together. Upon this mixture, that Salia Lixivious taste of the Salts, before their Coalescence with the *Mercury*, is changed into a pontick Acid taste. And because *Terebenthine* is so prægnant of an Acid spirit (as the Rectified spirit thereof to the Tongue, is a palpable proof) it's therefore the chief refine, that is capable of subduing *Mercury*, whereunto it's Lentour and Glutinous faculty doth very much contribute.

§ 4. Hence let us make a nearer approach, to what is a branch of my subject, and necessarily conclude, that Spittle (*Saliva*) is endued with a Turgency of Acid Particles, far more potent, than sharp distilled Vinegar, because it's so effectual in Amortizing or Fixing *Quick-silver*, which may likewise be performed by the Acid juice of Limons: but observe likewise, that Spittle is rendred Acid, only towards the latter end of the Concoction of the stomach, from the Acour of the *Dissolvent Liquor*, and therefore the morning-fasting-spittle is recommended for the purpose above mentioned. Moreover, take this remark with you, That the Spittle is imbued at several seasons with several Salts; sometimes

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times with Volatil, other times with Lixivial salts, sometimes with Acid, and sometimes with mixt salts, according to the contents in the Capacity of the Stomack, and about its tunics; so that all sorts of spittle is not proper for the Amortizing of *Mercury*.

§ 5. Now upon Compute of the whole matter, though your Reason may reap so much satisfaction, as to believe potent *Acids*, the sole subduers of *Mercury*, and capable of arresting its Fugitive particles; yet we must not be so facil, as to concede all *Acids* pernicious in the same Latitude with *Mercury* coagulated, of acting upon Liquours of the Body, and rendring them Scorbutick aggressors; for the greater number of *Acids*, administred with rules of Caution and Prudence, obtaining a virtue of repelling and suppressing some kind of Scorbutick symptoms, bear an evident Testimony of the contrary.

§ 6. Spirit of *Salt Marin* (I mean not the *Gracian* Impostors, but) dexterously prepared, according to the rules of the *Spagyrick Art*, hath acquired a good Character to some Physicians, for prescribing it to their Scorbutic Patients: And I were to blame for my silence, should I prætermit the great Effects of *Spirit of Nitre*, philosophically purged from its Arsenical fumes, not a few Scorbuticks owing their Recovery to this *Acid* from very obstinate accidents, that were true issues of that Disease. Neither can the performance of these præcticed inciding deopllative *Acids*, be justly called into doubt, since from the Spirit of *Vitriol*, and *Vinegar*, (used in the Condidiment of *Capers*, *Samphire*, &c.) though of a styptick Energy, advantage hath been received in the Cure of Scorbuticks and Spleneticks. If then these
Corroding

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Corroding and Cerberous *Acids* merit a reception so just among the *Apollinean* Faculty, certainly, those that are acquainted with the true process of the *Acid* spirit of *Tartar*, being so Penetrative, Attenuating, Digestive *Ecpbraclick*, and yet of an amicable Acour, can pretend to a greater secret to Eradicate the Scorvey. By the way, observe, It is not against an *Acid* Scorvey they are such excellent Remedies, but against a *Lixivial* one, which in the progress of this Discourse will be farther explained to you.

§ 7. From this præcurrent illustration, we may be assured in opinion, that *Acids* by their native Qualification, are curative to some Scorbutick bodies, and therefore it must be through a præternatural Affection, they are enforced to constitute the Principles of the forecited Malady. On this occasion, it will not be Dissonant, to Analyse *Mercury* (as it is reduced to a *Præcipitate*, or *Sublimate*, or other coagulated body, by acid Salts or Spirits) into its most intine Syntheticks, whence the Genuine Procreatives of the *Scorvey* will more distinctly Emerge.

§ 8. In order to the Unravelling of this so close knitted mineral, I must first represent to you these by me received *Hermetick* Theorems.

1. All *Alcalies* are contrary to *Acids*, and consequently do extinguish them, or if encountring in a lesser proportion only præfract them. Affuse the *Alcalized* Liquor of *Tartar*, to the *Acid* Oyl of *Vitriol*, in their just proportions, the Production will be a Salt of *Tartar* much præfracted in its *Alcalized* faculty, and a salt of *Vitriol* much obtused in its Acidity; but if the *Alcaly* of *Tartar* be superiour in measure to the *Acid* of *Vitriol*, then it doth reduce the *Vitriol* to a *Caput Mortuum*, and intirely extinguish its Acidity.

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2. *All Volatil Salts are fixed by Acids.* The Volatil salt of Harts-horn, or Amber, being Irrorated with spirit of Salt, is soon laid in sleep, and loses its Wings.

3. *There is no Alkali, but in its intime and centrick Particles, contains a most Acid, Corroding, and Perforating Salt. Likewise, There is no Acid Salt, or Spirit, but in its centrick Particles is lodged a most igneous Alcali.* Within the centrick of the Acid Oyl of Vitriol, there is an Igneous and Causlick Salt.

4. *Volatil Salt is nothing but the fixt Salt of any Body, Volatilized by the admixture of Sulphurous Particles.*

5. *The Purgative, or Vomitive, or other active faculty of Bodies, doth Emanate from their Volatil Salts, either by Irradiation, or Atomical Effluvi-ums.*

From the Application of these to any particular præparation, we are to expect, what now we Dive into. To this purpose, let our ordinary Turbith Mineral, as it is in the *London Pharmacopœa* transcribed by our Physicians out of *Unzerus*, who records the invention of it to *Adam Bodenstein*, be our Subject, as best known to my Perusers, both for its Use and Process; though possibly this remarque may escape their knowledge, that whereas Directions are given in the *Dispensatory*, for affusing an Anatick proportion of dephlem'd Oyl of Vitriol to Mercury, purged from its plumbeous Recrements, which Evaporated, leaves a white residue in the bottom of the Bolt-head, to be sweet washt into a yellow Powder; the præscription of the fore-mentioned *Bodenstein*, requires an addition of Salt of Vitriol, in proportion of half the weight to the Oyl of Vitriol, which renders the Result of the Elaboration less Churlish, and more effectual.

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Your view on this discerns the most compact body of *Mercury*, dissolved by the Acid of *Vitriol*, its Fugitive spirits detained, or Volatil salt partly fixed by its Pontick Liquor, or Acid Salt, and through their mutual Re-action so Elaborated, that in this Conjunct state have assumed neuter Faculties, not to be comprehended in either singular: For the one is so eminent in the Adstrictive, that in Hæmorrhages both internal and external, it performs what other Restringtons or Emplasticks fail in. The other, *viz. Quick-silver* aims at no other Effects, than its weight or gravity is capable to produce; but upon their Coalition, they remove most obstinate Diseases by Vomit, Stool, Urine, Sweat and Salivation.

From the Inference of the first and second *Spagyrick Theorems*, you must be convinced, it is the Volatil Salt of *Mercury*, and no other Constitutive principle, is here Coagulated, because performed by its opposite, a fixing Acid, and thereby somewhat præfracted; for through the abatement of its Vibrating and Penetrating Faculty, it's experienced not so capable, to Amalgamate the nobler metals into a *Calx*. From the repercussive particles of the said Mercurial Volatil Salt, the Acid of *Vitriol* is not only obtused, but rendred a dissolvent corruptive Acid, whereas naturally it's known a great preserver from putrefaction and dissolution. And if you give credit to the fifth Axiom, which long experience hath established firm and indubious among most Practicians; you must assert, not only the Vomitive and Purgative faculties to be issues of the Mercurial Volatil Salt, but also its Salivative quality; which explain'd in manner following, seems to me to be evident enough, how it exerts its power.

§ 9. *Turbith Mineral*, or other crude *Mercurial* præparation, is no sooner swallowed down into the Stomack, but through its most subtil Volatil Salt, doth attaque the Salts, that are floating in the Liquor, the capacity of the Stomack is ever furnished with more or less, (for an absolute driness, would certainly be attended with a most dangerous Hiccoch, or Convulsion of the Stomack) which in some proportion converting into Particles of its own Nature, doth soon occasion a Turgency in the Liquor of the Stomack, (being an Effect of the Contrariety and Combat between the *Mercurial Volatil Salt*, and the *Acid*.) And the Lymph contained in the Lymphaticks of the Stomack, which Turgency continued to the *Ductus Salivales* under the Tongue, and the others that terminate about the Cheeks and Gums, causeth an overflowing of the foresaid Lymph or Serum, where it's called Spitte or *Saliva*, quasi *Sal Liquor*, seu *Salsus Liquor*, or salt Spitte; for such it is. Here we must make a Digression to a succinct Explanation of the Fabrick, and Liquor of the Stomack, discovering the Nature of it, whence it sourceth, and through what Creeks and Inosculationes it makes its irruption, and thence it will prove more facil, by a further pursuit to render the manner of Salivation obvious to the meanest Capacity.

§ 10. Experiment in this Case makes the strongest Plea, and therefore I will offer you my Observation, Upon the Dissection of a Dog, fed with salt meat intermixt with *Sublimate Corrosive*, and thereupon most thirstily Lapping a great quantity of Water, wherein Pease had been boyled, and immediatly strangled. I was chiefly intentive on a strict view and research of the Stomack, in whose external

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external surface or tunic, being a process of the *Peritonæum*, the Coeliack Arteries appeared very tumid and full, and every where discernable to the Eye, accompanied with Lymphatick Vessels, that were also no less Turgid, and supported by a number of small Glanduls, which at other times remain hidden, because there is not so great a Confluence of Lymphatick matter, to swell them up. The *Crusta carnea* and the interior tunic, separable in a Dog from one another, through this superfluous Irrigation were Fungous, and upon a pressure the *Lympha* extilled at little Pores or Orifices; which probably may be conjectured the extremities of the inosculations of the Lymphatick Vessels. The dispersions of the Branches and Terminations of the foresaid Coeliac Artery, through the middle and inward Tunic, were extreamly distended with Humors, and the Lymphaticks every where throughout both Tunics no less visibly burden'd with moisture, and upon a diligent observe of their track, were found to ascend the *Oesophagus*, and to perforate the great Glanduls, and thence to the Tonsils, the Ranine and other Glanduls of the mouth.

§ 11. Before I detected the Expatiation of these Lymphatick Channels, could not out of any Author supply my self with the Reason, why upon the assuming of any ungrateful Medicine, Purgative or Alterative, after a small interval, the mouth doth salivate a thin pellucid *Serum*; which from the præmised Discourse seems very evident: for upon the Combat between the Dissolvent Liquor (or that which is improperly called the Ferment) and the Volatil Particles of the medicine, happens a Turgency, which by continuation being likewise impressed upon the Lymphaticks of the Tunics of

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the *Ventricle*, and *Oesophagus*, must necessarily occasion an overflowing at the Termination of the *Ductus Salivales*, both of those under the Tongue, and the other on the sides of the Gums.

§ 12. By the way, I must make one observe, how unsuccessful Authors have been, in imposing the name of *Ferment* upon the *Acid juice* of the stomach, and describing its source, or original. The word *Ferment*, (as you may read more at large, in the first part of my Treatise, *De Febris Cap. V.*) is universally taken to be that, which clarifies and exalts any compound Liquor, that's newly made by Decoction, Infusion, Expression, or otherwise, to a greater perfection, by means of a simmering (for *Fermentum* takes its Derivation à *Fremendo*, and not *Fervendo*) or a small Ebullition, whereby the Liquor is subtilized or attenuated, and the Heterogeneous bodies separated into a Froth and Lees. This signification can in no manner be applied to the foresaid *Acid juice*, performing only the Office of dissolving the *Victuals* received in the stomach, and coequating it into a Cream or *Chyle*; a word originated from *χύνειν* to dissolve: wherefore there being only a Dissolution of what's ingested, or a production of the *Chyle* attained by means of this *Dissolvent Acid*, and no Depuration or Exaltation; it doth more properly require the name of a *Dissolvent Liquor*, than of a *Ferment*, and consequently there is no Fermentation in the stomach, but only a *Dissolution*, and *Coequation*; whence may be remarked, how Truth is oft overruled by an impetuous Current of Opiniaters.

§ 13. The source whence this *Acid juice* should stream, was for a long time asserted the Spleen, refusing

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fusing through the *Vas breve*, into the stomach, which the Curiosity of Anatomists observing not to be pervious at its termination, concluded there must be some other passage, through which the said Juice was convey'd; but none durst præsume to assign it, untill *Sylvius*, the late Physick-Professor of *Leyden*, did attempt to prove this *Acid juice* to be engendred in the *Pancreas*, and therefore named it *Succus Pancreaticus*, whence through the *Ductus Versungianus* was by Regurgitation forced up into the Stomack. This Conception of *Succus Pancreaticus* hath so fondly been Nursed by him, that in his *Idea Nova Prax. Medic.* he doth impeach it, to be the Productor of most Diseases. Much less than a Demonstration. for scarce a probability of this *Acid Pancreatick Succus* hath been offer'd by him, which so much Disgusted *Monsieur le Vasseur*, a Physician Regent of the Faculty of *Paris*, that he undertook to Demolish that principle in a small tract written in *Latine*, wherein he doth fiercely impugnate his Triumvirate of Morbifick Causes, (as he styles it in his own *Idiom*) though without obtaining any Advantage on his Adversary, the one being no more auspicious in refelling the *Acid Pancreatick juice*, than the other in asserting it.

§ 14. In the first place, I find no Difficulty in maintaining, that the *Succus Pancreaticus* is at no time *secundum Naturam* propelled into the stomach; for the *Grand Channel*, which is the *Ductus Versungianus*, terminating near the Confines of the *Duodenum*, and the *Ilion*, and disburdening the superfluous Juice into it, is naturally according to the *Peristaltick* motion, being performed by the Contraction of the Circular Fibres, expelled and carried downwards; and if at any time it is forced into

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the stomach, that must needs happen by means of the inversion of the Peristaltic motion (namely, the Circular Fibres contracting from below upwards) which undoubtedly is Convulsive, being occasioned through a stimulation of the said Juice, Vitiated or Obstructed, and is absolutely *contra Naturam*. But if according to the Tenour of this Discourse, the *Pancreatick Juice* is Regurgitated into the stomach; is so far from Pleasing or Delighting it, through that amicable Acour, that's Fictitiously attributed to it, that it occasions a maukish Nauseousness and Salivation, which *Re vera* are effects of a sweetish thick moistening water, contrary to what flows from the Causality of an Acid Humour; and nothing is observed, to have a greater share, in dissolving the Tone of the stomach, and contributing matter to those slimy ropy Crudities, plaistered to the sides of the stomach, than this incrassated *Pancreatic juice*. So that it must be believed, that this kind of Fallacious Doctrine is by those, that for their seeming parts are placed in the School Chairs, violently imposed upon their Scholars, who imbibing this in their infant studies, like Principles of Religion, esteem it a great Crime, ever to doubt of what their Masters infused into them.

*Quo semel est imbuta recens servabit odorem,
Testa diu, &c.*

§ 15. In its natural Qualification, I am assured, the *Pancreatick juice* partakes of no acidity, proof thereof shall be offered you below. The *Pancreas* to me, seems to be the sink of the Lymphatick Vessels, whither they post the superfluous Lymph, that hath done its Task, to be Evacuated as an Excrement. But here the Wisdom of Nature is very remarkable,

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remarkable, in inserting the *Ductus Pancreaticus*, or *Virsungianus* into the *Duodenum*, neighbouring so near to the *Ductus Cholidochus*; the one namely the *Cholidochus*, serving the gall bladder, (*Cystis bilis*) as a Conduit to Disgourge the overflowing Choler into the Guts, which otherwise through its extream Amaritude, and Lixivious corrosive Salt, being rendred so superlatively sharp and detergent, would offer violence to the most sensible small Guts, and soon gnaw off its Internal Tunic, were it not that meeting with this sweetish, thick, moistening Water, Extilling from the *Ductus Pancreaticus*, it was soon allayed, and qualified with its Lenitive and-Dulcifying Lentour. A further use Nature hath destined it to, is to moisten, and render the internal Tunic of the Guts glib and slippery, for to promote, and facilitate the descent of Excrements, being moreover the material Cause of that *Pituita*, or Fleam, which is ever found in the small Guts, in the state of health. Neither do I give the least credit to those Capricious Opinions, the fore-named *Sylvius* hath superstructed upon so Erroneous a Fundamental, as this *Acid Pancreatic juice*, viz.

1. That there daily happens a mild Effervescency between the *Bilis* and that Juice, which I am confident a Healthful Person is altogether insensible of, unless indulging his appetite in a large rouse of strong Liquor.

2. That through a Vitiate Acidity of this Juice, are occasioned *Dysenteries*, Gripes, Vomtings, and what not; read *Chap. V. Lib. Precitat.*

3. That all Diseases depend on the Præternatural disposition of his *Triumviral Humour*: To wit, Fleam, Choler, and this *Pancreatick juice*; but for all this, not one syllable of Proof, rather introducing a thousand Absurdities on the Neck of another.

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§ 16. I am now arrived, where I am to illustrate to you, the *Pancreatic juice* is so far remote from being *Acid*, that it's perfectly sweet. It's a Concession granted by all, That Moisture is more apt to turn *Acid* in an Extinct Body, than Living; as appears in *Veal*, which being kept too long, expires an acid steam. If so, then,

1. The *Pancreatic juice*, obtaining an Acidity in a Living Body, must necessarily assume a greater Acidity in a Body Expired; which is observed contrary, for the Juice that is expressed out of the *Pancreas* of a killed Calf, hath a clammy sweet taste, and certainly is endued with a far sweeter savour, whilst it contains a proportion of Volatil Salt within the Channels of a Living Body.

2. The *Pancreas* it-self Raw or Boyl'd, pleases the Palate with a sweet taste, beyond any other sort of Flesh, which qualification cannot be in a Body that engenders an Acid Juice, or daily is Irrigated with it. *Propter quod unum quodque tale est, illud magis tale est.*

3. *Lymphatick* Vessels about the Stomack, and those of the *Pancreas*, both deriving from the Spleen, and having a Communication and Commerce in the same Contents, namely Juices or Lymphs, It is not to be doubted, but both Juices of the Stomachick and the Pancreatick Lymphæducts, participate of the same Nature, and Taste, which being deprehended sweet in the Stomack Lymphæducts, can be no other in the Pancreatick. Medicines that Create some Labour to the Stomack, and move a Turgency in the Lymphatics of the Stomack, occasion an overflowing of the *Ductus Salivales*, or a Salivation of that very Lymph, or Juice, that was floating about the Ventricle, which is commonly pronounced by all, to have a Sweetish or Sub-

dulce

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dulce taste in the Mouth, and doubtless, that of the *Pancreas* is not different. The manner *how* is expressed before.

4. An Argument may be deduced *à causa*; the Lymph of the Stomachick and Pancreatick Vessels is Replenish'd, and well Saturated with Volatil Salt, whose Nature is experienced, to Expel and Extinguish all Acidity, and so consequently the foresaid Lymph must prove sweet, and in no wise Acid.

§ 17. The Lymphatick Vessels being in great numbers directed from the Spleen to the Stomack, to transport thither a proportion of Lymph, that in the Percolation of the Blood, was attracted and alluged into the said Lymphatick Vessels, being thorowly saturated with Volatil Salt, transported through the Pores of the stomachick Nerves, and Coeliac Arteries, is Effused into the Stomack at such times when it hath received Victuals to Digest; for thereupon the Arterial Blood, and Vital Spirits are moved and attracted, and a heat Excited, whereby the Lymph being Attenuated, rendred Turgid and the Vessels Tumefied, is forced into the Stomack in that quantity, as doth sufficiently Relax the said Lymphæducts. This Lymph by means of the said Volatil Salt, is so subtil, penetrating, attenuating, and rarefying, that uniting with the Volatil Particles of the Liquor ingested, and that which by Mastication of the Victuals lies persufed and dissolved, doth soon disunite and dissolve the *Vinculum* of the solid Victuals, and being thorowly mixed with the Liquid, is speedily reduced into a Cream or Chyle. Whilst this Attenuation and Solution is performing, there is a Turgency occasioned in the Capacity of the stomach, which streightning the Arteries, that Amplexe the Stomack, do
through

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through Renix duplicate their Pulsation in Fræquency and fortitude, (as appears upon feeling the Pulse of the Carp after Dinner or Supper) whereby the Heat is much intended, and Copious Effumations of *Vital Spirits* or *Arterial Volatil Salt*, immitted into the said Capacity, which do most vigorously assist the Dissolution and Concoction of the Stomack.

§ 18. That the Concoctive Faculty is most Active and Potent in the Fund, or bottom of the Stomack, hath been hitherto the blind opinion of most Anatomists, upon surmisal, that the *Acid Ferment*, which bears a great part in the Concoction, through its Gravity and Præcipitative quality, is chiefly floating about the lower Region of the *Ventricle*: but if we suppose, the Digestive Operation to be performed principally, by virtue of the *Volatil Salt* contained in the Pores of the Lymph, being of a subliming and ascending nature; the Stomack by reason of those greater Nerves of the sixth pair, and Fibres of the greatest strength, Circumvesting the upper part of the Stomack to be most Robust, and the Heat and Dissolvent seems to be Reflected, Collected, and Augmented there; it must be confessed, that the Digestive Faculty is most Energetic about the upper Region of the *Ventricle*. The next Particular in order to be Explain'd, is, when and how the Juice that is Concocted, is separated from that which is not yet perfectly digested, and afterwards Transmitted through the *Pylorus*, or Inferior Orifice of the Stomack, into the small Guts. That the whole content of Victuals and Drink is not so long retain'd in the Stomack, until the entire Mass be totally Digested, is Experienced by all, that observe their Stomacks after Meals, to grow gradually Lighter and less distended, and their Appetites

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petites likewise return Gradually, and so consequently the upper part of the Chyle being first Concocted, and swimming a-top like a Cream, is first prepared, and ready to be Effused thence in this manner: The *Chyle* being thorowly perfused with a great proportion of *Volatil Salt*, is so Rarefied and Tumid, that it now exceeds its bounds, and by assistance of that Aculeous quality of the aforesaid Salin Particles, stimulates the Oblique Fibres to Expulsion, and still as in the same manner the Stomach is gradually disburdened, so the Fibres gradually Contract and Corrugate the Tunics into a smaller Comprehension, until the whole be Transmitted, and the Stomack reduced to a scarce greater Circumscription than a Fist. Several particulars here are of Remarque.

The first, That the Finer and most Coarquate matter is Exterminated first, and that which is somewhat of a grosser Pulment next, until at last the coarsest and Fæulent part succeeds to be wrought upon, which being Tough, Tenacious and Glutinous, requires an *Acid Dissolvent*, by whose force, together with the Continuation of the heat, Animal and Vital Spirits, or Vivid *Volatil Salt* fuming out through the Pores of the Nerves and Arteries, the matter is more potently Incided, Comminuted and Dissolved, and the said *Acid Dissolvent*, or *Mock-Ferment*, obtaining a Pontique or Amicable astringent Acidity, is qualified thereby, to præcipitate the gross remainder of the *Chyle* into the *Duodenum*, and afterwards to fortifie, and corroborate the distended and defatigated Fibres of the Stomack by a gentle Astriction.

The second, That the *Ventricle* being full, the *Pylorus* or lower Orifice is Erected high, to prævent the too sudden Expulsion of the *Chyle*, and therefore

fore no part but what is uppermost, and rendred turgid, by being thoroughly Imbued with *Volatil Salt*, can be Transmitted; but as the *Chyle* Ebbs lower, so the *Pylorus* seems likewise to decline downwards by the Contraction of the Fund of the Stomack, to give an easier passage to the weighty and drossy remainder of the foresaid *Chyle*, to which, should the *Pylorus* continue Mounted, at so great a distance from the Inferiour Region of the *Ventricle*, the Trajection or Expulsion would prove extream difficult.

The third is, That the last remainder in the stomach, upon every compleat Concoction, is nothing but Dross, among some Physicians called the *Scoria*, which being Commixt with the *Acid Mock-Ferment*, is præcipitated into the *Duodenum*, where by reason of the Acrimony of the Commixt *Acid*, vellicates the said Gut, at the Terminations of the *Cholidochus*, and the *Ductus Pancreaticus*, irritating the former to Disburden its Cargo of Choler, and the latter its incrassated Glutinous Lymph, of which three only the Excrements of the Guts do consist, *viz.* From the Dross or *Scoria* of the stomach, they derive their Matter and Consistency, from the Pancreatic Lymph their Clamminess and Cohæsion, and from the Choler their colour, from the quantity whereof it's more or less Yellow, Red, or Luteous, and from the commixture of all their stinck doth derive.

The fourth Observe is this, That whilst the Body is seated in a healthful state, the sweet Cream of the *Chyle* not being irritative, passes the *Duodenum* and the other small Guts, without being perturbed, commixt, or corrupted with the foresaid Excrementitious Choler, or Pancreatic Lymph, which ever as I said before, are disburdened at last, separately from the Alimentary Juices.

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The fifth Discovers an Error of Opinion of some of the Learned in Physick, who strive to maintain, that it is the Red Dregs of the Blood, is Evacuated through the *Ductus Pancreaticus*, which they name *Gloes Sanguinis*, not being unlike the Dregs of Red-Wine, which partly they say consists of thick Melancholy, that hath perform'd its Task, and partly of the Red of the Blood, that was too long Retain'd, and somewhat Adust. Of this Opinion the Learned Professor *Vander Linden*, of famous memory, was the Author, and also did (among the rest of his Disciple) Instil it into me many years past, but having only his *awr* \odot *æon* for it, and upon Anatomical search into several subjects, not finding any Red Dreg or Lee, or any thing else, except the oft fore-mentioned thick Pancreatick Lymph, have justly deserted that Tenet.

The sixth puts me in mind of the præparation, all solid Victuals requires, namely of being Masticated, Ground small and even by the Teeth, and with all perfused with spittle, which almost consisting of the same principles and *Volatil Salt*, the *Dissolvent* Lymph of the stomach doth, is a singular assistant to the Concoctive part. That the spittle is so prægnant of *Volatil Salt*, is clearly evinced from its Dissolutive virtue, softening and discussing almost any Pustle in less time, than any Medicine whatsoever; and supposing the spittle to be so Turgid of *Volatil Salt*, much more the *Dissolvent* Lymph of the stomach.

The seventh Annotation is, That during three fourth parts of the time of Concoction, the *Dissolvent Juice* is no wise Acid, but on the contrary partakes of an Igneous Alcalized Volatil Nature, abounding with Penetrative, Dissolutive and Pungitive, or Mordicant Effluviūms and Steems, as may be

be observed by those, that occasionally Belching at the mid-time of Concoction, or before, or somewhat after, are so vehemently stung, bitten, and inflamed in their Throat, and along the *Oesophagus*, that it is not in the power of *Brandy*, or other *Ardent Spirits*, to imitate those Effects. But the *Volatil Salts* being together with the *Chyle*, passed out of the stomach into the small Guts, the *Dissolvent Lymph* is left *Acid*, to accomplish the Digestion of the Gross and Fæculent remainder, which towards the latter part of Digestion, or some six or eight hours after Meals, in some quicker, in others slower, is upon an Eructation or Belching perceived in the Mouth, not only Sour, but *Acid* with an Adstriction, not unlike the *Acid Spirit of Vitriol*.

§ 20. To those that are knowing in the Analytick part of the *Spagyrick Art*, it's very Obvious, that Compound Liquors consist of a *Volatil Salt*, and an *Acid Tartar*, as plainly may be Demonstrated in Wine, whose *Volatil Salt* or *Spirits* being extracted, and dissolved from the Union with the Fixt Particles, through the attraction of the igneous effluvioms of the Ambient Air, the *Acid Tartar* doth immediately appear in the taste of the remaining Liquor, which then is called *Vinegar*, or Sower Wine. In the same manner most other Liquors and Decoctions being deserted of their *Volatil Salt*, by Attraction of the sun-beams or Ambient Air, do likewise immediately turn sour. Spitte though sweet, when it's egested out of the Mouth, grows *Acid*, as soon as its *Volatil Salt* is Exhaled. Upon so perspicuous an Illustration, I cannot imagine you expect further proof, that the *Dissolvent Lymph* of the Stomack is not at all *Acid*, but contrary, as soon as it's effused into the stomach, it's
subdulce

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subdulce or sweetish, and continues so until it's Body is Expanded, Pores opened, and its *Volatil Salts* and *Spirits* Extracted to the Circumference, and then its grown Igneous, Colliquative and Mor-dicant, and at last, the *Volatil Salt* being partly Evaporated, and partly Attracted into the *Vasa Lactia* (like Wine changing into Vinegar) turns ab-solutely *Acid*, Inciding and Astringive. Argu-ments in greater number, and of no less Evidence, I could here offer to your Consideration, but do prætermit them to avoid the Suspicion of judging my Reader so Obstinate an Opiniater, as not to be perfectly convinced of the truth of the Premises, by what is already proposed. Neither would I have you conclude, that I have steer'd beyond my Rhomb, in Expatiating into so Ample a Discourse of the first *Concoction* or *Chylification*; for the true *Theory* of the office of the Stomack, and its manner of Operation, is a great Fundamental of the Art of *Medicine*, the Ignorance whereof (God mend it) among Physicians, is a great occasion of their too great Correspondence with the Sexton and Grave-maker. What Principles, or rather *Phænomenon*, an Eminent Physician of the City, had assumed in Informing himself with the manner of Production of the *Scorvey*, and its Causes, I could never apprehend from his Receipts; but this is most certain, that a Patient of this Physician, a person of Quality, and a very near Relation to a Peer of the Realm, for the benefit of Air, living at *Woodford* in *Essex*, had the strength of walking abroad, made use of Medicines præscribed by him, but within two days Ghosted. Whether the said Medicines, set the Humors afloat, or whether our Doctor had been upon the merry-pin before he præscribed, was much doubted.

CHAP.

C H A P. VI.

§ 1. **I**N Mercurial Salivations, wherein (as hath been hinted before) every particular doth so exactly resemble the Scorbute, I find the Material Cause is the Liquor of the Stomach, and the Lymph of the Stomachick Lympheducts, which like a continued Stream is forced up; but how this Issue of the Mouth is supplied, ought to be further inquired into.

Although many of these Water Rivulets from the Brain, and other parts of the Head, do Communicate with those, that are terminative within the Mouth, yet it must be received for a Truth, that the great Source and Spring is about the Stomach, and the Pancreatick Lymphaticks, which latter streaming so impetuously upwards, are the chief Cause of the Constipation of the Belly, being otherwise greatly promoted, in its natural Quoridian Evacuation by the wonted descent of the *Pancreatick Juice*, Relaxing and Lubricating the passage of the Guts. The Anxiety attending a Salivation, is a Symptom oft very urgent, and depends on a streightned passage of the Blood, through the Ventricles of the Heart; for being deprived of the greatest part of its *Volatil Salt*, imbibed by the Lymph or *Serum*, which is now too much drained from the Blood, the Pulsifick Faculty for want of the *Volatil Salt*, must necessarily Languish, and the Blood being too dry, and Coagulative, must needs, pass the Heart with great difficulty. Neither is this the sole Cause, but being accompanied with a stoppage of the Salivation, as oft happens, the Salivable Matter doth Regurgitate to the Lymphaticks

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ticks about the *Hypocondria*, where it doth Duplicate the Anguor, which in some I have observed so extream, that they owed their narrow Escape to very Opportune Remedies, and most, if not all, that have the ill Fate, to be banisht the World in a Salivation (which the *Chyrurgions* and *Apothecaries* of this Town are so unsuccessful in) have been stifled by these Anguors.

§ 2. The Blood floating through its Chanals, naturally is indued with a sweetness, but in a Salivation, and the Scorbute, turns *Acid*; the manner how, is the great Secret of this Theory. Premissorily it's requisite, to propose the Nature and Kinds of *Acids*, which are various. The *Acids* of *Vinegar*, *Vitriol*, *Nitre*, *Common Salt*, *Tartar*, *Antimony*, *Allom*, *Sulphur*, &c. all obtain a specifick difference, as is rendred obvious by their Properties and Efficiency. The *Acid* of *Vinegar* is particularly observed Potent, in Attracting the *Sulphur* of Minerals. The *Acid* of *Vitriol* is Diametrically opposite to the *Alkali* of *Tartar*. *Nitre* by force of its *Acid*, doth Amortise the *Volatil Salt* of any Mineral; abstract it oft from *Mercury*, and the result will be a Dulcified *Arcanum Corallinum*, a Medicine singularly reputed for a mild Vomitory and Dejectory; upon further repeated Cohobations, the foresaid *Arcanum* deserts its cathartique Faculties, and is limited to a *Diaphoretique*. The like Effects it produces on the furious Body of *Butyrum Antimonii*. The *Acid* of *Salt Marine* is the sole Dissolvent of Gold, especially when united with the *Acid* of *Nitre*, and then constitute the true *Aqua Regia*, which is in nothing different from the common *Aqua Regis*, abstracted from *Vitriol*, *Nitre*, and *Sal Armoniac*, except that the former far exceeds the latter

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latter in Purity and Force : For though the common *Aqua Regia*, be made out of *Aqua Fort.* Cohobated upon *Sal Armoniac*, it's most certain, that the said *Aqua Fort.* is nothing but the Spirit of *Nitre*, that of *Vitriol* being too ponderous to ascend through the same degree of Heat ; and the *Sal Armoniac*, from which this is propel'd, contributes nothing, but its *Acid Spirit of Salt*, which constitutes the Body of the said *Sal Armoniac* ; for the Volatil Salts of Urine and Soot, which defer to it a Specificque difference from other Salts, being *Alcalies*, are Amortised, and Extinguished by the *Acid* of *Nitre*, and consequently in their Extinction, must necessarily by Reaction obtuse, and hebetate the *Acid* of *Salt* and *Nitre*, whence it appears this sort of *Aqua Reg.* must yield to the other, in point of Efficacy and Virtue. In the Thirst of *Hydropicks*, the said *Acid Spirit of Salt*, through it's penetrative Faculty doth excel all others, in Allaying and conquering the Exiccative Quality of those fiery Salts, that are dally Meteorised to the upper Orifice, or supream Region of the Stomach, and there occasion those insatiable Droughts. There is a Subject of Admiration in the *Acid Spirit of Tartar*, considering there is nothing so Remote, or Abstruse in the Body of Man, but it will find out and Insinuate into ; but what is more than this, contrary to the Nature of most *Acids* (whose Operation is universally by Urine) it's a great *Diaphoretique*, and provokes Sweat potently. *Antimony*, if like *Vitriol* it may be called the third part of an *Apothecaries Shop*, it's *Acid Spirit* merits the chief place in it ; for beyond all peradventure, he that's unacquainted with this great *Acid*, is by some thought ignorant, how to cure a Malignant Fever *è Fundamento*. The *Acid Spirit of Sulphur*, though usually

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usually termed the same with Spirit of *Vitriol*, hath that difference, that it contains a fixt Principle, whence it derives a Power, to fix the most Fugitive of Minerals, which is denied to Spirit of *Vitriol*.

§ 3. But to illustrate this more plain, that some *Acids* are very different, and in a manner almost as contrary to each other, as an *Alcaly* is to them; only make trial upon the *Magistery* of Coral or Pearl, which is commonly præpared, by their Dissolution in Spirit of *Vinegar*, (whereupon happens an Ebullition) Exhalation of the said Spirit, and Edulcoration; upon this *Magistery* effuse some different *Acid*, as Spirit of Salt, *Sulphur*, or any other, there will arrive another Ebullition, as smart if not smarter than the former, but of a shorter continuance, which Evinces, there is a great Contrariety; as appears further in this particular, that one *Acid* will præcipitate, what's contained by Dissolution in the other. There is no less Contrariety between *Alcalies*, or *Sulphur* dissolved by a continued Ebullition in the Capitel or Lixive of *Calx viv.* is præcipitated by Urine. Any of the *Aromaticque* Oyls, be it of Cinamon, Cloves, &c. is Incrassated, and Coagulated into a thick Balsam, by assuaging Spirit of *Sal Armoniac* to it, which is an infallible Character of Contrariety between them, and (by the way) is lookt upon as a great Secret, whereby a Balsam may be made without the Mixture of Wax, or Oyl of *Nutmegs*. Besides these, it is to be remarked, *Acids* are either natural, or Corrupt. The former bears the part of a Constitutive Principle in all Natural Bodies, though being prædominated by an *Alcaly*, or ballanced to a temperament *ad Justitiam*, is not exposed to be dis-

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discovered by sense; but by a Chymical dissolution into their Elements, the *Acid* is ever discovered to Universal view to be done. All Salts, (not being Alcalious) though the *Acid* lies dormant and hidden in them, by the force of Fire through a Retort, do deprome their *Acid*; all sorts of Wood do exert the like *Acid*, being forced in the same manner through a Retort; which *Acid* before this *Analysis*, could not be deprehended in them by Taste or Scent. A strict Proof will not be required, I imagine, that there are some *Acids*, that are corrupt; Apples and Pears when they begin to rot, smell and taste sour, and so do Flesh meats, and most Artificial compound Liquids corrupting, as Beer, Syrups, Meathe, Broaths, and most sorts of Decoctions, also natural Compound Liquids, as Milk, Wine, &c. None of these *Acids*, but by any Naturalist will be termed Corrupt. But what is more, Bodies that are primarily *Acid*, are subject to be Converted into a corrupt *Acid*, as appears in the Juice of Limons, Oranges, Pomgranates, and others, which being exposed to the Rays of the Sun, do decline into a corrupt *Acid*, far remote from their Natural.

The variety of *Acids* beyond this last inserted distinction, is great: *Acids* are either Pontique and Styptique, as some deep red Wines, *Vitriol*, and many *Vitriolate* Preparations; Acerbous, as immature Pears, Apples, Plumbs, &c. Austere, as some sort of Wines, that taste sour and harsh. There is also an *Acre-Acidum*; a sharp *Acid*, without any Stypticity or Austerity, as the *Acid* of Spirit of Salt Marine. In Mucilages is also a particular *Acid* to be observed, which may be termed *Acidum Mucilaginosum*. Some use may be made of describing *Acids*, by names derived from *Acids* in Minerals,

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Minerals, whereunto the *Acids* in the Body bear a proportion and resemblance, as in some it's remarkable, they experience a sour styptique taste upon their Tongues, not without some likeness to Copper, which may not improperly be called a *Vitriolat Acid*. In the same manner other *Acids* may be termed nitrous, aluminous, &c. By the way I am to advertise, that I am not ignorant, that Natural Philosophers distinguish Tastes into acid, sharp, austere, &c. which here I do resume as kinds of *Acids*; referring the truth thereof to the arbitrement of any ones sense; but those Naturalists following the umbrage of reason more than Notion, abstracted from *Experimental Philosophy*, no wonder they failed in this particular.

I must here divert my Reader from opinioning me to have deserted my line, in bringing on the board the nature and distinctions of *Acids*; which I affirm is no wise foreign to this matter; for it is from the Præmisses I am to deduce and illustrate, there is in the humors of the Body discoverable a natural *Acid*; that they are subject to be converted into corrupt *Acids*; and the manner how.

If to all Physical Bodies there concurs an *Acid*, as a Constitutive Principle, whereby the *Alkali* is bound and coagulated into a body, it cannot be denied to the humor, which for further proof being mixed with Brick dust, the Mass formed into Cakes, dried and forced through a Retort, you shall find in the Recipient an *Acid* Spirit of great Energy and Vertue in *Hydropick* Maladies. This is the natural *Acid* is Latent in Humors, and not to be discerned by Sense, because it is prædominated by the *Volatil Salt* being of an *Alcalious* Nature. To continue the *ſm*, in the next place it's to be declared the Humors, and particularly the *Chyme* is

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suscepti-

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susceptible of a putrid *Acid*. The vulgar *Barber-Chyrurgions* and Bleeders, give their Testimony, that the Blood by *Plebotomy* extracted out of several diseased Bodies, to their taste hath appeared Aluminous, Austere, and in some Scorbutiques very sensibly *Acid* or sour; their Breath hath also expired a sour steam, and those *Tormina* or taring pains of the Guts, which Scorbuticks are so much exposed to, are sometimes caused by a *Pituita Asida*, or Acid Phlegm, terebrating the Tunics of the Guts. For brevity I do prætermitt many other Arguments, inferring the Blood in Scorbuticks to be *Acid*, as the evident Derivation of Symptoms from an *Acid*, will in the process of this Discourse more amply Demonstrate; only in conclusion of this Paragraph, I do say, That if it be granted, that Milk doth oft turn sour and curdle in the Breast, it's as probable the Blood in the Vessels doth turn sour and Coagulous, they being in constitutive principles, but little different from one another. I cannot very well avoid animadverting on an Objection, that *Prima fronte* seems to carry some force, viz. That if the Blood be supposed *Acid* in the *Scorvey*, then all *Acid* Medicines must render the Blood more *Acid*, and the Disease worse, as is implied by that trite Theorem in Physick, *Similia similibus conservantur, & contraria contrariis curantur*; and consequently *Alcalies* should be furnished with a virtue, to subdue the said *Acid*, being their contrary. The præmitted dissertation contains as to this a very satisfactory Answer, wherein it is very perspicuously exhibited, that many *Acids* are *è Diametro* contrary to one another, as according to the rule of contraries (*Contraria sese mutuo pellunt ex eodem subjecto*) appears by the several Ebullitions (a sign of contrariety of two different *Acids*) in the above-mentioned

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oned Preparation of Magistery of *Pearl* or *Coral* : Wherefore most *Acids*, especially Spirit of *Salt Marine*, Julce of *Sorrel*, *Lemons*, *Citrons*, &c. are so deservedly extoll'd in some *Scorbutick* Distempers, and seconded with good success; though I must confess, they are must properly and chiefly useful in a *Lixivial Scorvey*.

The field of *Acids* is large; Therefore which of them this *Scorbutick Acid* doth most imitate, will be expedient to propose next. Upon pervolving those Authors, that have treated on this Distemper, I find them so closely adhering to *Similies* abstracted from *Wine* and *Vinegar*, that I judge it a matter more facil, to draw a Drunkard out of a Tavern, than them from their course notions upon *wine* and *Vinegar*. He that resembled *Scorbutick Blood* to *Wine* that's turn'd *Ropy*, hugs himself in that subtle Invention, and in the ample recompence of being applauded by the young sucking Physicians. This word *Ropy* is oft intended for stringy, or streaky, there being long streaks separated from the whole fluid Body, and floating in the thin Liquor, as appears in *Milk* that's turned sour and grown *Ropy* : But such I could never yet observe in *Scorbutick Blood*, though I have examined a great number of Porringers. Blood that's tenacious, obdustible and glutinous (which thence may be termed *pendulous*) I do very frequently meet with among *Scorbuticks*, but that's no other, then what flows in the Veins of most *Cachecticks*. The Cause assigned (by my Author) of the Roapiness of the one and the other, is an overfretting; wherefore, he saith, the *Scorvey* is oft subsequent to a continual Fever: And why not then to all Fevers, there being as much an overfretting in the one as in the other? Whence this is the consequence,

that all *Scorveys* are produced by Fevers, or Overfrettings; and what overfretting of the Blood are Seamen and others subject to, that derive the Seminary of their *Scorvey* from the Salin Air of the Sea? I could never yet understand any. He proceeds, and would persuade you to believe, that through this over-fretting, the *Sulphur* and Salts are separated from the Mass of the Blood, and being abandoned to the Urine, render it Red like unto Blood; as if the Urine of all Scorbuticks were of that tincture. If this pretended Roapiness may be attributed to the Blood, it must be that, which is contained in the vessels of the *Mesentery*, whence gross Humors are purged away in great Streaks and Ropes: But that it should be Streaky within the Vessels, because it appears so, when by Cathartick Physick it's purged thence, *Non valit ratio*. For a farther Explanation upon Roapiness, I refer to Chapter 11.

Others affirm, the Blood in the *Scorvey* to turn Acid like Vinegar. By the way, you must not apprehend the Blood to decline to the same Degree of Acidity Vinegar is of; for that must necessarily Infer a total Extinction of the Dogmatick Innate and Influent-Heat; but that it only recedes from its Dulcor and Sweetness, to a Crude Austerity and some small Acidity. It will not be out of purpose, to Examine how an Acidity is introduced into Wine, and consequently becometh Vinegar; whence probably may be Extracted the Cause of Acidity in Scorbutick Blood. Peripatetique Philosophy asserts Wine to change into Vinegar by Putrefaction and Corruption. Putrefaction (being by some accounted only a tendency to Corruption) is defined by the *Sagirite* a Corruption of the proper Natural heat in each moist Body, occasioned by a forreign Heat

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that's without. This applied to the Generation of Vinegar, infers that Sowness to proceed from an Extinction of the Natural heat or Spirit of Wine, by an External Heat. I cannot but admire here, that a Liquid Body should issue from a præceding Liquor by putrefaction, and that without any *Fætor* or stinck, which is asserted to be an inseparable Accident; and what is more, that a Body should be engendred by putrefaction, which of all others is the greatest præserver from putrefaction; for such Vinegar is esteemed to be. Wherefore it's more Rational, and Consentaneous to Experiment, that Wine consists of *fixt Salt*, *Sulphur*, *Volatil Salt*, and *Lymph*, or in the *Spagyrick* phrase, *Mercurius*. The *fixt Salt* is the Acid *Tartar*; the *Volatil* (incorporated with the *Sulphur*) being dissolved into a small proportion of *Lymph* is the Spirit, which as long as it continues United with the *Fixt Salt*, doth obtruse the Acidity, and renders the whole Mixture sweet, as the Wine appears to the Palate, but being separated from it (as hath been hinted before) the Acid *Tartar* dissolved in the greater proportion of the *Lymph*, in effect is the Vinegar; so the way to make Vinegar, is to abstract the Spirits or *Volatil Salt* from the Wine, by suffering it to Exhale, or by Exposing it to the Sun, or Heat of a Fire, which Attract the foresaid *Volatil Salt*, or by adding a small measure of sharp Vinegar to a greater of Wine, which with an united force of the *Fixt Salt*, do soon Extinguish and Expel the *Volatil*, and then the prævailing remainder is converted into Vinegar. The method chiefly in use among the Vinegar-makers in *France* is this; They take two Barrels of a long shape, which there they call *Flutes*, and being well cleansed, they put into each of them Four, Six, or Eight Quarts (ac-

cording to the bigness of the Vessel) of the strongest and sharpest Vinegar, being made boyling hot, and thereupon stop the Bung hole very close, then they Roul and Move them to and fro for Six Hours together, until the Vinegar is grown cold, after this they run it out again, until there is not a Drop left, and then lodge the Barrels in a warm place, and fix them so, that they may lie fast and not stir; upon this they make two holes (which they call the Eyes) in each of them with a Piercer, about a foot from the bottom, and pour into those Holes through a Funnel, some eight or ten Quarts of the best Vinegar, and a Week after they pour two Quarts of Decayed Wine to it through the same Holes, to make Vinegar of, a Week after that they put as much more to it, and so every Week they add as much more to it, until the Barrels are a little more than half full, and then they encrease them every Four dayes, until they are quite fill'd, which they draw off to two Thirds, for to sell; and afterwards fill up their Flutes again gradually.

From whence I infer all Wines to be actually Vinegar, and Spirits, that is to be Physical Compounds, containing actually the Principles of Acidity in them, and *Volatil Salt* of an Alcalious Nature; and on the other hand I deny, That in *Vinegar* the Acidity is introduced or wrought into it *per se*, by the Efficiency of the Sun or other Extraneous heat, but only *per accidens*, by separating the *Volatil* from the *Fixt Salt*, or reducing it into its Principles.

In the Generation of Vinegar there are several alterations observable, being Ascents and Degrees, tending to that extreame Acidity Vinegar is of: In the first place, Wine changes to a Muddy and Turbid Countenance, loosing that Diaphaneity and æquality

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equality of Substance and Colour it had, because the Constitutive Particles have changed their Position and Situation; for in Wine that's declining towards the Eger, the *Volatil Salt*, which before had equally expanded the *Fixt Acid Salt*, Exhaling or Receding, the said *Fixt Salt* doth somewhat Coagulate, and unites nearer in its Particles, whereby this Obscurity and Turbation is introduced. In this degree the Wine hath something changed its Taste, and Drinks flatter, but no kind of Sourness doth then appear; for though the Acid Salt seems to get ground upon the *Volatil*, it's not yet arrived to any mark of Acidity, because the aforesaid Acid is commixt with a slimy dull Tartar, which Obtuses its Sourness, and is the principal Cause of the Obscurity and Turbidity in the Wine. It is not long after, that a little Sourness may be discovered by the Taste, and Turbidity observed to diminish; for as the Wine gains in sourness, so it loseth in obscurity, the Acid freeing it self from the slimy Tartar, præcipitates it to the bottom, or by Inciding and Attenuating it, dissolves it into Lymph, whereby it's Clarified and grows Pellucid, and consequently as it grows soure so it grows clearer, until it becomes perfect Vinegar, and then it's likewise grown perfectly diaphanous.

Now you may easily imagine, it is not my scope, only to offer my Reader the Theory of Vinegar, or to inform him, how to arrive to be a *Vinegar-maker*, but by a way of Comparative (for Notions in Physick frequently spring from that method) to the Blood, to illustrate its manner of recess from its Natural towards a Scorbutick Acidity. Wherefore first you are to apprehend, the Blood in its native Constitution is sweet, or of the Qualification of a *Pingue Dulce*, it's nitorous or shining, of an equal

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Temperament and Mixture, Imagine *ad Juditiam*, and not perturbed or coagulated, but Fluid and Smooth; by reason of its *Volatil Salt* is so Penetrative, and Insinuating (though when it's Tapt out by *Pblebotomy*, appears thick) that *Quick-silver* the most Insinuating of all Minerals is Gross to it; for it's observable, the Blood doth daily pierce to the most Intime and Remote Pores of the most compact parts of the Body, *viz. Bones, Membranes, &c.* Lastly, The Blood, though consisting of a Fat and Unctuous substance, the Taste of it is Smart and Piercing.

It is in all these and more particulars the Blood in *Scorbuticks* doth undergo an Alteration. I shall begin with a short Comment upon its Acidity, unto which it gradually recedes from its Natural sweetness; but the kinds of Acids being many, it's requisite to assign, which of them this Distemper is grounded on.

The *Volatil Salt* of the Blood suffering any impair by depravation, diminution, or extinction, the natural *Acidity* of the said *Nutritive Liquor*, doth acquire a prædominance, or sometimes an absolute power, in the same manner as was asserted above, touching the change of Wine into Vinegar. If obtaining a prævalence, renders the state of health neutral, but if by conquest it hath got an absolute power, denotes the temperature and mixture of the Mass of Blood dissolved, which onely happeneth in those, that die of old age. But supposing, that upon the affection of the *Volatil Salt*, the natural *Acid* lieth exposed to injuries (read *Chap. 11.*) which during the intire *Vinculum* of both, it was defended from; then the foresaid *Acid* degenerates from its natural into a vitiated, putrid, or corrupt *Acid* which *ipso facto* doth constitute

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ture a disease. This præmised, I assert, that a recent, or confirmed *Scorvey* is the adequate effect of a putrid *Acid*; The others, namely austere, or pontique, are causes only of melancholy, hypochondriac and mesariac distempers. Proof hereof may very well be made by arguments, desumed from the effects, that issue from the causality of a putrid *Acid*. First we will examine the blood of *Særbuticks*, which upon view I have fræquently remarked, to be of a dull countenance, and in no wise nitorous, of colour livid, or sometimes cineritious, or in others resembling the whites of Eggs, interspersed with opaque streaks; in point of consistency thick, coherent, conglobated and tenacious, being also overflown with a turbid serosity, of gust palpably acid, and here and there a nitrous Acid, both in scent and taste, and at no time gratefully acid; in Initiared *Scorbuticks* the serosity discovers a crude, austere, or sometimes pontique *Acid*. The evidence here is strong, being demonstrable to one of the surest Senses, *viz.* the Taste, and that desumed from the *Serum*; which by reason of the Salts and Tincture it extracts from the humors, affords a most prægnaunt discovery of the constitution and complexion of the Blood. But we shall insist no longer on that sense, but convert our discourse to experiment; instil a few drops of Spirits consisting of a *Volatil Salt* (*viz.* Spirit of *Sal Armoniac*, *Cornu Carvi*, Soot, &c.) into a small proportion of Blood; their effect will render it fluid, nitorous, serene, of a most pleasing red, and rescue it from a dissolution of the Humors: But on the other hand, *Acid* drops, *viz.* of *Nitre*, *Salt*, &c. occasion immediately a Coagulation of the said Humors, and a separation of their *serum*, leaving those in a turbid commixture, dull, opaque, cineritious, and of an

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ill whitish fleam colour. Whence we may rationally præsume, Scorbutick Blood so exactly resembling what is impressed on any other Blood by these *Acids Spirits*, to derive its vitiated constitution from an *Acid*, which must necessarily be a putrid one, as shall be explained hereafter. In the next place, let's make inspection into the Characters of Scorbutick Urine, which for consistency is uncertain, most times muddy, turbid and thick, sometimes thin and opaque; for colour, pale and whitish, though in some few of a raw bloody colour, like water, where raw flesh hath been washt in; for contents various, sometimes a copious sediment of an Ash colour, with a scum swimming on the surface like Tallow, other times a small sediment. By scent is detected a particular stink, not like what's expired from other Urine. The causality of these qualities in the fore-mentioned Urin doth lie between an Alcalious Lixivial Salt, and an *Acid Salt*. The first contributes a muddy deep yellow, and somes a saturated red tincture to the Urine, and therefore relating to some inveterate *Scorvey*, doth consequently lodge the faculty of engendring a Scorbutick Urine of a recent distemper in the latter, viz. an *Acid Salt*. Moreover, the same Experiment of Instillation of different drops into *Urine*, produces the same evidence it did upon the *Blood*. That this *Scorbutick Acid* is putrid, appears by its production and inseparable adhaerence of a stink, for which a sufficient testimony may be taken from the breath of *Scorbuticks*, the steams that evaporate from their Bodies, the ill scent of the *Serum* of the *Blood* and *Urine*, which all stink abundantly. To make at præsent any further conviction, that a *Putrid Acid* is the internal cause of the *Scorvey*, by deriving any more symptoms from its efficiency, will be superfluous,

perfluous, in regard, that will be singularly explained in the particular mention we shall make of them. The cause of a *Putrid Acid* shall be proposed in *Chap. 11.*

CHAP. VII.

Of the Procatartic or External Causes of the Mouth-Scorvey.

§ 1. **A** Salivation excited by *Mercurials*, and accompanied with its usual attendants, is beyond all peradventure a *Mouth-Scorvey*; and for that reason *Hartman* and other Chymical Authors, affirm *Mercurial Medicines* pernicious, and altogether improper in *Scorbutique Distempers*; and consecutively to this Assertion, I have frequently observed, that such as have been obliged to make use of *Mercurial Remedies* against their *Venercal Maladies*, do ordinarily fall into the *Scorvey*, which sometimes proves more stubborn than the Distemper, which the said *Mercurials* were intended against; so that we must set down *Mercury*, to be one among the number of occasional Causes of the *Scorvey*.

§ 2. Gross fæculent and obstructive Diet, especially if overcharged with Salt, or rendred hard and compact with Smoke, as dried Neats Tongues, Bacon, Sausages, Red Herrings, Dried Salmon, Hung Beef, &c. do not only contribute matter, but obtain also a peculiar faculty of impressing a *Scorbutick Idea* on it. Of the same nature are Melancholick

lancholic Meats, as Beef, Pork, Geese, Ducks, Salt Fish, and all other Fish, that are bred in standing Waters, as Eels and others; also Pickled and Marinaded Fish, as Pickled Herrings, Anchovies, &c. The next of the *Non-naturals*, that bears a great part in this morbidique production, is a Salin Air, rendred thick and constipative by Vapors and Damps, Nitrous Evaporations out of the Earth, filled with putrid steams of Sinks, Gutters, Ditches, Muddy and Dirty Streets, and Sulphurous Smokes of Chimneys, stagnating and pent up between narrow lanes and corners, and seldom serenated or purified by the rayes of a clear shining Sun, nor fræquently ventilated with Easterly briezes; and such is the Clime of *London*, where the Air is experienced close, dull, damp, salin and muddy, overspread with dense, dark, salin Clouds (attracted out of the Sea) for two third parts, if not three fourths of the year; during which time the Wind seldom blows Easterly, or is favored with a smiling Sun.

§ 3. These two are accounted the principal external Causes; the former agressing the Body within, the latter without; but to which of these the sole causality may be imputed, hath been controverted between some Modern Authors, the one party, whose opinion induceth them to believe the Scorbut to make its first assault on the Blood and Animal Liquor, by entring the external pores, state the Air the chief and original efficient: The other, apprehending the Stomack and its Ferment, to receive the first efforts, proclaim Diet the principal Agent. In favor of the former sentiment, these arguments seem persuasive, i. The *Scorvey* being assented by most an Endemick Disease, which generally

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rally derives its production from the Constitution of the Clime, infers a verdict for the Air: and, 2. This is further confirmed, by being also esteemed among the number of Contagious Maladies, which are universally communicated by Transportation of morbid Miasms, whereof necessarily the Air must be the chief Vehicle, and consequently a more principal cause, than the other. 3. Symptoms bearing Characters more obvious to sense, offer an evidence very plain; wherefore if the Animal Faculty be the first sufferer, as appears by the Symptoms, viz. Lassitude, Drowsiness, Noise in the Ears, &c. and that the said Symptoms of Lassitude, &c. be perceived by the Patient, while his stomach and its ferment continue in their vigor, and exempted from any præternatural affection, then it's undeniable, but the Air is the primar Agent. Those who espouse the contrary arbitrement, assert the faculty of the Stomack to be impaired, and next after the Blood to be vitiated, before the appearance of any Lassitude, or other Animal Symptom; moreover, that the word *Endemic*, importing only a common Disease among people (from *ἐν* and *δῆμος*) doth not exclude the generation of a Disease to be from a Vitiated Diet, or any other *Non-natural*. Touching its contagion, they affirm a Disease may be primarily engendred within the Entrails, and afterwards prove contagious: But lastly, whether the decision hereof be any whit material, in relation to the Cure, is left to the Reader.

§. 4. The next circumstance that's worthy of inquiry, is the manner, how a vitiate Diet, or impure Air, doth cause an Acidity in the humors. We will suppose, That a Salt Diet.

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* *i. e.* Salt * is the most common Efficient of the Meat and Brackish Drink. *Scorvey*, which being ingested into the Stomack, doth chiefly act on the *Uterum Nervorum*, consisting in a great proportion of *Volatil Salt* (whose office principally is, by contraction of the Fibres to corrugate the Stomack) and spirits of the Arteries. It is then this extraneous *Marin Salt*, that attracts and absorbes the fore-said *Volatil Salts*, with the liquor they are contained in, in great measures; and hereupon occasioning a great Drought, forceth the Stomack to cover vast quantities of small drink; whereby the Stomack is immoderately cooled and relaxt; the fore-said *Volatil Salts* rendred fixt, and *Spirits* drown-ed and extinguishd; moreover the said *Extraneous Salt* having absorbed and attracted the *Volatil Salts* into its Centrals, they meet with the *Acid*, that's latent in its Bowels (as appears upon driving *Salt Marin* through a Retort) which through its contrariety to *Alcalies*, amortises the forementioned *Volatils*. The consequence upon this is, that the digestion is not perfected, and the contents not justly dissolved and coagulated, but remain crude and imperfect, whence must happen Crudities and Obstructions, which afterwards prove a *Basis* for all other Diseases to be establishd on.

§ 5. It is not to *Salt*, or other unwholsom Meats, we must solely adscribe this Scorbutick Effect, but lay part of the charge on Drinks, that are used among us; in particular the Beer and Ale that's brewed about the City; the Water whereout they are brewed being absolutely brackish, or imbued with a proportion of *Salt*, though not so great as to be discovered by the Pallat. That Water containing a Tincture of *Salt*, is thereby capacitated to
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make the stronger Drink, is most certain, and for that reason, because the Water being somewhat brackish in *England*, and therefore making the strongest Liquor, it's thence *English Beer* is reputed the best and strongest in other Countries. Consequently to this remarque, I find, that Beer or Ale brewed out of *Thames Water*, is more vigorous and spirituous than what is made of other Water, because the former by having a commerce with the Sea, is more salin; and thence it is also that *North-down* and *Hull-Ale* exceed *Thames-Ale* in strength, as being nearer to the Sea. This may likewise be confirmed by the practice of some Brewers, who to render their drink the stronger, do commonly sing some small quantities of Salt into their Brewing; wherein exceeding sometimes a due proportion, doth impress so great a seasoning on their Beer or Ale, that it's manifestly perceived brackish by those that drink it. The reason of this sort of process is grounded on the insinuating and attractive Vertues of Salt, attracting the intire life and soul out of the Malt. Neither are Chymists ignorant of these attractive faculties, who when they are to extract a Spirit or Oyl out of Aromatics or Cephalic Herbs, generally dissolve a handful or two of Salt into the Water, while it's in digestion. *Apothecaries* do also experience, that Roses lying a few dayes in salt, yield a water much more odoriferous, than if distill'd off simple. These instances are produced to make proof, that the water of *London* is salin, and consequently highly scorbutick. But probably an Objection may be started, that though *Thames Water* from its communication with the sea, may be suspected salin, Why should other Waters whereout Drink is also Brewed, be esteemed so? To this I answer, That the Air
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of the City being perfused with salt Clouds, attracted out of the Sea, (which is no great distance thence) doth sufficiently imbue it with that Tincture : moreover, the Earth over which those Waters stream, contributes to it a saltness, being brackish, as may appear to any ones Gust, that will adventure to taste it ; now that Clay Ground, and other sorts of earth, do exude or sweat out a *Salsugo*, or saltness, is abundantly manifested in salt pits ; and undoubtedly the pit-water which *Cæsars* Army made use of for two years together, when they were quartered near the *Rhine*, sourced from a salt pit, though not so much imprægnated, as to be distinguished by the Palat, or at least the fore-said Water was imbued with some Mercurial Vapours (but the former is more probable) which afterwards gave them a disease like the *Mouth Scorvey*; they being subject to a Vacillation and claps of their teeth, with pains of their Gums. One sort of Water we have not yet taken notice of, which is of standing Pools, as that is reported, whereout that Liquor is brewed, which goeth by the name of *Shore-ditch-Ale*, for strength being superlative to all other. No doubt but Water by stagnating, doth contract a putrefaction and saltness, which being thorowly allayed with the Cream of a fat brackish Clay, is naturally prepared to Brew thick fat Ale ; whence that water is vulgarly termed strong bodied, whereas spring water is accounted thin weak water, and not capable to Extract the intire strength of the Malt, as the other is ; which is true enough spoken. This Discourse doth also infer sower Beer, or Ale, to be very pernicious, likewise decayed Wines.

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§ 6. Among the next relating to both the præceding Branches, we must impeach *Gluttony* and *Debauchery*, for two grand *Scorbutick* Abettors. The former by imposing too great a burden on the Stomack, doth so much obtuse the *Volatil Salts*, that the *Acid* thereby gaining a prædominance, and thereupon soon growing putrid, occasioneth Crudities and Obstructions, and so an inlet to the *Scorvey*. The latter refers to excess of Drinking strong Liquors, particularly *French Wines*, through which the Stomack suffering fræquent inundations, their Spirituous and Volatil particles are attracted Crude, and Undigested into the Vessels, which in a short interval of time, Obnubilate and drown the *Volatil Salts* of the Nerves and Arteries, as not being sufficiently præpared to be Assimilated to them; and these Efforts being oft repeated, do at last Vitiare, Evaporate, and Amortize the Spirits. On the other hand, the Liquor that's remaining in the Stomack, is left Acid and Acrimonious, in the same manner as was Instanced in the making of Vinegar.

§ 7. From what is here discoursed, relating to the manner of a Salin Diet occasioning a *Scorvey*, may easily be collected, how a Salin Air operates the same effect, viz. By entering the External Pores, and being inspired down by the Lungs, doth assault the Vital and Animal Spirits and Salts. 2. By contracting the Pores through its Exiccative and Absorbing quality, and constipating them by its grossness and crassitude of substance, whereby reverberating and locking up within the Body the fuliginous steams, that stifle or smother the Spirits, and fix the *Volatil Salts*, in manner, that they assume the Nature and Quality of a *Marine Salt*.

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Touching the remaining Non-naturals, *viz.* Motion and Rest, Sleep and Wakefulness, Excretions and Retentions, and the Passions of the Mind, though they come not within the notion of Primar^e sole Efficient, yet do potently contribute to the production of the *Scorvey*, by as much as by their inordinate use, they aggress, vitiate, diminish, and extinguish the *Volatils*, and give an increment to the *Acid*; which how it's effected, may easily be deduced from the præmisses. To these add a Melancholick Complexion and ill Constitution of the Bowels, especially of the Spleen; also Fevers continual and intermittent, particularly a Quartan, which doth frequently expatiate into the *Scorvey*, *ceteris concurrentibus*.

Upon this præliminated Explication a decisive touching the controversie in *Par. vii.* may easily be attempted; *viz.* That both can be admitted principal Efficient in the *Scorvey*; for many though observing the exact Rules of Diet, have notwithstanding by living in a Salin^e Air, contracted the *Scorvey*, which as hath been copiously expounded, is sufficiently qualified to produce the *Distempers* fore-mentioned. Moreover those that derive the *Scorvey* from a Contagion (which hath been oft observed) do attract the Scorbutick Seminaries and Miasms through the Air, without the least concurrence of Diet, as having been regular and wholesome. On the other part, a Salt Diet continued for some proportionable time, hath engendred the *Scorvey* in such places, where the Air could not be suspected ill, and of this there are examples numerous enough; but waving that, I will evidence it in a Præsidet, that is more frequent, and of a shorter production. *Drunkenness* in such whose Blood is not apt to be kindled into a Fever, hath
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In a short interval occasioned an universal lassitude and weakness in the Knees, Spots and Blotches about the Legs and other parts of the Body, Laxity, discoloration, and soreness of Gums, pain and looseness of the Teeth, a sour stink of Breath, &c. which Symptoms do plainly declare it to be the *Scorvey*, and that produced without the suspicion of an ill Air. So that either may be esteemed a principal efficient, though where both do concur as principals, there it occasions the *Scorvey* to be *Endemic*; but where it is contracted from either singly, there it's *Sporadic*.

CHAP. VIII.

Of a second different internal Cause, being the cause of some Leg-Scorveys, and many or most Terminatory Scorveys; namely, Saponary Blood.

§ 1. **T**HE Tenor of the next preceding Chapter implies a *Putrid Acid*, predominating over the *Volatil Salt*, to be a cause of one sort of *Scorvey*; here we intend to propose a *Scorvey* different from that, wherein the *Volatile Salt* being vitiated and augmented in too great a proportion, overballanceth the *Natural Acid*, and produceth a Constitution of Salts and Humors, likewise Symptoms, that are absolutely *Scorbutique*, but of a fiercer and more malignant quality. By the way, I must

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must prevent my Reader from any hesitation, wherein it may appear strange to him, that Symptoms that bear the same countenance, should be derived from two contrarily different Causes. As to this, it is an Observation evident enough in other Diseases; for instance the Colick is sometimes occasioned by Billous Lixivious Humors, corroding the internal Tunick of the Guts, in which case they usually suffer a Contraction *in Longitudine*; sometimes it's caused by an Acid flatuous phlegmatick Humor, and here the Guts are affected *in Latitudine*. On the former is imposed the name of an *Hot Colick*, and on the latter a *Cold Colick*; the same may be also observed in Pleurisies and many other Distempers.

§ 2. The Constitution of the Blood in this kind of *Scorvey* is far different from what it is in the other; for here the Blood runneth into a thick coherant Fluor, like Syrup, doth not coagulate or concrease; but continueth in the same form, without the separation of the *Serum*, that in the other commonly floats on the top. The difference is likewise in colour and taste; here the Blood appears in a purple, and to the taste is Lixivial and Acrimonious. Touching the Symptoms; the *Acid Scorvey* exercises its fury most on the parts above the Navil, the *Alcalious Scorvey*, chiefly on the parts below, what farther distinction is remarkable, you shall read elsewhere.

§ 3. Certainly it was a great Hallucination in *Sennertus*, but far greater in others, that have wrote since on that Subject, to pretend an *Acid* the cause of *Pendulous Blood* (a term the Recentiors have borrowed from the fore-named *Sennertus*, though

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though ill verted into English *Roapy*, as hath been animadverted before) which rather causeth a Coagulation, as appears by Experiment, upon instilling Acid drops into Blood or Milk; and yet this *Acid* is so abominably stretcht by a late Author, who obtaining a particular knack of writing a Story smoothly, doth endeavour to adaptate it to Symptoms in general of all sorts of *Scorvey*; whence I find, neither he, nor those that harbour his Notion do arrive to a success of curing some *Leg-Scorveys*, equal to that of the *Mouth-Scorvey*, but are oft render'd infinitely worse.

§ 4. The cause of this thick incrassated coherent Blood, that if poured into a Porringer, hangs in short ropes or long drops, like Balsom or liquid Soap, when poured off, I impute to the fixation of the *Volatil*, which united to the Fixt Salt of the Blood, doth alcalize and calcine it, whence assuming the nature of other Calcined Salts (as *Salt of Tartar* and *Nitrum fixum*) doth attract and absorb the *Serum* of the Blood, and some moisture out of the Air, whereby that and the whole mass is turned into a *Deliquium*, and so becometh thick (the *Serum* being absorbed) coherent and pendulous; because part of the Blood is naturally glutinous, which being tied closer together in its particles by the absorption of the thinner and serious parts, must needs prove pendulous; of a taste lixivious, because such all Calcined Salts appear to the Palate; and of a purple colour, because the Blood is adusted from a florid red into blackness.

§ 5. That the Blood of these Scorbuticks, which are here mentioned, is qualified in the manner described, will appear to any, that shall give themselves

selves the trouble of examining Scorbutick Blood, when occasionally extracted by Phlebotomy; but least such as desire to be satisfied in this point, have not a ready opportunity of examination, we will endeavor to convince them of this truth by experiment. Take Blood that's sound, and possibly extracted for prævention or abating a Plethory, Insfil into it Spirit of *Sal Armoniac*, or of any other *Volatil Salt*, it shall præserve it in its flavor, colour, consistency, mixture and other qualities, until it be evaporated, and then the said Blood by coagulating into a Mass, will separate from its *Serum*: But if instead of this, you affuse a small quantity of Calcined Fixed Salt, that's runned into a *Deliquium*, it will incrassate the Blood, change it into a deep purple, render it pendulous and lixivial to the taste. After all, proving the particular Symptoms to issue thence as proper immediate effects, will crave an undeniable conclusion; but that shall be referred to a further inroad into this Discourse. I must not retire from this Subject, before I give the reason, why I have named this sort of Scorbutick Blood, *Soapy*, or *Saponary*; namely, because like *Soap* consisting of *Tallow* and *Lixivial Salt*, the Blood in this kind of *Scorvey*, is also composed of a deflagrated incrassated *Sulphur* and a *Lixivial Salt*, both commixt and united into one Body; but how and through what causes it is rendred so *Soapy*, shall be told you in the next Chapter.

CHAP. IX.

Of the Procatartic Causes of Lixivial
Alcalized Salt, in Scorbutique
Blood.

§ 1. **T**He *Fixt Salt* of the Humors is the Original and Conservation of the *Volatil*, for (according to one of the Hermetick Theorems, formerly recited) a *Subtil Sulphur* penetrating into the pores of the *Fixt Salt*, closely knits it self with its particles, and being of a subliming nature, that is derived from the igneous minims it contains, doth levitate, sublime and volatilize the said *Salt*. Experiment doth assert this a certain truth; affuse *Spirit of Wine* on *Calx Vive* (which beyond all objection is pregnant of *Fixt Salt*) after a short digestion, abstract it, and some part of the *Fixt Salt* will be volatilized and sublimed with the *Sulphur* of the foresaid *Spirit*. Possibly here may be demanded, how doth it appear any of the *Fixt Salt* is volatilized? Hereunto I answer, 1. By the Taste, the aforesaid *Spirit* proving more igneous, vibrating and pungitive to the Tongue. 2. *Spirit of Wine*, by reason of its *Sulphur*, is inflamable to the last drop; but being united to this *Volatilized Salt*, doth very difficultly receive a flame, or when inflamed, will scarce continue. One Experiment being too scanty, I will offer you another. *Volatil Salt of Amber* is fixed by abstracting *Spirit of Salt* from it; and being so fixt, affuse on it *Spirit of Wine*, digest them a while, and then abstract the *Spirit of Wine* from

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from it, and you shall find the *Fixt Salt* volatilized again. Hence I infer, 1. That the *Fixt Salt* is not only the original matter, but also the sole conservative and nourisher of the *Volatil*, by yielding new sublimable parts. 2. That the Constituent principles of a *Volatil Salt* are a *Sulphur* and a *Fixt Salt*. This being allowed or at least præsupposed, doth detect the manner, How a *Volatil Salt* is fixable, viz. by divelling the *Sulphur* from it, or stripping it of its force and efficacy; so that those externals that act against the foresaid *Sulphur*, are to be æsteemed the Procåtartick Causes of rendring the Blood Scorbutick, and of lixiviating its *Fixt Salt*.

§ 2. The same remote Causes, which in one of the præcedent Chapters were declared Efficient of a *Putrid Acid*, are also impowered to lixiviate and alcalize the *Fixt Salt* of the *Blood*, though not in the same manner, or univocally, but *per accidens*, and æquivocally; so the Sun is virtuated to produce contrary effects æquivocally, in engendering Cold and Hot Bodies, moist and dry. A *Salin Diet* and *Salin Air*, by vertue of their *Salt Marin*, do absorb and concentrate the Sulphurous minims of the *Blood*, which being inflamed, and rendred corroding, partly through its own nature, partly by its union and amplex, of the *Salt* parts, and being withal thereby *Fixt*, are both præcipitated to the *Fixt Salt* of the *Blood*, whereunto also uniting, do all become Soapy and Lixivial. Secondly, The *Fuliginous Salts*, that are too copiously occasioned in *Saline Scorbutick Ebullitions*, are a principal cause, but for a more ample satisfaction I refer you to Chap. . How greatly the familiar sipping of Brandy and other adust Spirits, do contribute to the inflaming the Sulphurous particles

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icles of the Blood and lixiviating of it, is sufficiently obvious; likewise that fuming Tobacco, under the notion of concentrating and fixing the Sulphurous and Volatil particles, doth lixiviate and fix the Blood, needs no farther proof.

§ 3. Least I should leave the least scruple, that might induce the Reader, to suspect the contents of this Discourse, I apprehend it expedient, to remove this Objection, which is offered by way of Query, How can a Salt Diet or Air, or rather Sea Salt, occasion two contrary effects, *viz.* of rendring the Blood Acid, and Lixivial or Alcalious. I hinted before, that these effects are derived in a various manner, to wit, an *Acidity* is caused, as was explained formerly, by the separation of the *Volatil Salt* and *Subtil Sulphur*, which is an effect *per accidens*; an *Alkali* is impressed on the *Salt* of the *Blood*, by an effect the *Marine Salt* produces *per se*; for through its igneous faculty, and especially when it's tumid with the absorbing the *Sulphur* of the *Blood*, it alcalizes the *Fixt Salt*.

2. The fore-mentioned *Marin Salt* is not only naturally fiery, but vigorously augmented in its igneous quality, by its conjunction with *Lixivious Salt*, or *Excrementitious Choler*, that naturally ought to be separated and evacuated by the *Gall Bladder* and *Cholidochus*, whose passages in a confirmed *Lig-Scorvey* are commonly for a time constipated, the Excrements of the Guts through their paleness and *livor* signifying as much; but withal observe, that the *Cistis Bilis* and *Ductus Cholidochus* continue obse- rated only for a certain space; for afterwards the fore- said passages are forced open, by the abundance of gross lixivial Choler, which then impresses a deep red Tincture on the Excrements of the Guts. Fur-

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thermore observe, That commonly the *Mouth-Scorvey* precedes a *Leg-Scorvey*, and seldom do both invade the Body at the same time, but one upon the neck of the other; so that if the *Mouth-Scorvey* continue any considerable space, the *Leg-Scorvey* must necessarily follow.

§ 4. Observe likewise, That some continual and Intermittent Fevers, especially Quartans, do sometimes exchange into *Alcalious*, but no *Acid Scorveys*, as by their internal Causes and Symptoms, which the deep red Tincture and vehement stink, both in Urine and Ordure, likewise a very saline Sweat and Spittle, do attest lixivial, is evidently declared; and that which doth positively evict the cause of these kinds of Scorbut to be *Alcalious* and *Saponary*, is their Cure, which is chiefly to be performed by *Acids*, as *Spirit of Salt*, *Antimony*, &c. and by *Subtil Sulphurs*, and *Volatil Salts*; but in no manner by *Fixt Alcalies*, upon which an irreparable detriment hath oft ensued. Lastly, To prove the undeniable truth of these Observations, the vulgar management of Sea-men (who are out upon long Voyages) in their *Scorveys*, which so inevitably they are incident into, using nothing but *Acids*, as *Spirit of Salt*, *Juices of Oranges* and *Lemons*, wherewith they are abundantly stored, tells us, it's an *Alcalious Saponary Scorvey* they are subject to, against which an *Acid* is the diametrically contrary Remedy.

C H A P. X.

Comprizing the Examination of Scorbutick Principles proposed by a late Author.

§ 1. **A**gainst what is asserted in the two last preceding Chapters, nothing of moment can be farther objected, than the authority of our *Oxonian Author*, who for his learning, concise, smooth and elegant mode of Writing may justly be characterized the English *Fernelius*, esteeming withal, that he hath in some sense surpassed *Eugalen*, *Salomon Albertus*, *Wierus*, *Sennertus*, and the rest, that have treated on the subject of the *Scorbut*; and among those his other superlative qualifications, I must also take notice of his Modesty, not peremptorily asserting, but like a *Cartesius* affirming only a probability of that, whereon his whole subsequent Discourse is grounded as its Basis; *Traët. 2. de Scorbuto*, Edit. *Amsterd.* fol. 230. where the words run thus, *It's probable, that the Blood in the Scorbutic affection is altered, in a manner not unlike wines, that grow Rancid or Roapy, as oft as they are over-heated (that is over-fretted) for this is an argument, that that Disease doth not depend so much upon Dregs, mixt with the Blood, as on a habitual intemperament of the Blood; because a Radicated Scorvey is so difficultly cured, and sometimes never. Moreover it may be stated, that the intemperament of the Blood, which is the parent of the Scorvey, is two-fold, as it is in wine; namely Sulphurous and Salin, and Salin and Sulphurous. The whole Theory of the Scorvey is*
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by the Author fore-mentioned briefly summed up in those few lines, which to examine, is the chief affair of this Chapter. First, He tells us, *It's probable*; But why is it probable? Because probably it seemed so in some inconsiderable little Analogies and Resemblances: I may as well affirm, that it is probable, his Horse is a Mare, because viewing him at a distance, he seems like one. Certainly, he that by too much stretching of the Cloth, endeavors to make all sorts of Habits and Shapes out of it, must necessarily make a very incongruous Suit. This our Author hath practised in most of his Tracts, abstracting Notions from Wine to illustrate his Theory of Diseases; as first in relation to Fevors; because Wine is apt to be fretted, it's probable the Blood is also subject to a fret; whence a necessary conclusion is drawn, *That the Blood so fretting is either a Fever, or rather the cause of a Fever*; but *A probabili ad necessarium non valet consequentia*. Neither doth the similitude *quadrare*, the one being a derivative from a Vegetable, that naturally is disposed to the foresaid alteration; the other from a *Vive Animal*, that when declining into a Fever, is præternaturally affected. Moreover this fretting quality that Wines are incident into, is only of one kind; but the frets or fevors of the Blood are various and very different, as Quotidians, Tertians, Quartans, &c. Secondly, In relation to Convulsions, because the Blood is disposed to fret in all the Vessels of the body, it's probable, that in the fretting of the Nervous System, it doth impel heterogeneous *Copula's* and Explosive Particles into the *Liquor Nervosus*, and irritate the Nervous System to an explosive motion, through which a *Spasmodic affection* and a præternatural *Diathefis* of the brain, are occasioned. A pretty kind of Rhetorick,

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exchanging the old significant terms into those that are obscure and equivocal; however these *Probables* might very well be admitted, especially being garnished with those pretty affected Phrases; provided the *Phenomenon* and resemblance were somewhat more parallel, and conform to Experiment; from which that they are infinitely different, I shall particularly instance in the comparison of *Rancid* and *Reapy*, or rather *Scorbutick Wine* (for such he would have it to be) with *Scorbutick Acid* and *Scorbutic Lixivial*, and *Saponary Blood*. That Wines by overfretting become rancid, is agreed on by all Wine-Coopers, which in their usual phrase, they do not term *rancid*, but say, *It tastes of the fret*, that is, Fuliginous, Empyreumatic, and Piquant, but not Acid; neither when they are overfretted as much as they can be, do they immediately taste otherwise than what is set down. Their Cure is performed, as he sets forth, by being drawn off the Lees; which in a plainer way is to be understood thus; if it be observed, that Wines are inclined to frequent frettings, or over-frettings, as all Wines are in the Summer season, especially if lying in a warm Cellar, to prevent the former, they endeavor to cool the place, where they lie, by stopping up all the Lights, and oft dashing cold water over the Floor. The latter, *viz.* Their aptness to over-fret, is remedied by pouring a proportion of new Milk to the Wine, or Iron-glass dissolved, or other materials that are impowered to appease, allay and sweeten the heat and fury of the Sulphurous Spirits; but when Wines are absolutely overfretted, then indeed to draw them off the Lee, is the next remedy. The cause of an over-fret or rancidness, he asserts to be an imbodying or coagulation of the Sulphureous particles with the Salin;

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as the former exceed the latter in proportion. This *Atiology* may easily conduct the Reader into mistakes, supposing the Constitutive Principles of Wine, *viz.* The *Salt*, *Sulphur*, and *Mercury*, to be distinctly contained therein, whereas it must be conceived, they are so intimately cemented together in their minimal particles, that there is not the least drop, but contains the foresaid principles in its least individual physical particle, so that you are not to imagine, that in Wine, that is thus declining, the *Sulphur* swims in one part, the *Spirits* in another, and the *Salt* in another, but that the subtiler *Salt*, *Sulphur*, and *Mercury*, being united into one, do abscede from the grosser, into whose room and cavernicles, external heterogeneous principles succeeding out of the ambient air, occasion such various alterations, as render the Wine rancid, roapy, &c. Those Heterogeneous Corpuscles, if they are sulphurous, as in the Summer season they generally are, then they alterate the Wine into rancid; if more gross and saline, as at other seasons they are, it becomes roapy. But Wines being subject to these alterations in all Climes, and humane bodies onely in some particular sorts of Air, which therefore (together with a vitious diet) render the Diseases thereof *Endemic*; this alone is an Argument sufficient to evince the Alterations of the blood and wine not to be comparative, and consequently the *Simile* to be dissonant. Secondly, Suppose the *Simile* allowed in Fevers, that as Wines fretting are indued with an intense heat, through the exaltation of their *Sulphur*, so the blood fretting is attended with a dyscratic or intemperate heat, which for the present shall also be allowed the name of a Fever; then consequently the blood must be deemed Scorbatic, because rancid; for Wines during

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during their fretting are ever rancid, and taste of the fret; and so all compounded Liquors, as Beer, Ale, Metheglin, &c. whilst they are working, are rancid.

§ 2. The absurdities that follow the *Hypothesis*, are, 1. That there is no moving living Creature, but is troubled with the *Scorvey* in one part or other; for whilst the Chyle is fermenting in the Stomack, or the Blood fretting in the Vessels, which according to the dictates of Fermentators happens at all times, they become rancid. 2. In *France* I find Fevers more frequent, than in any other Countrey, which in the sense of my Author are all attended with fretting, and very probably some with overfretting; yet I could never observe any there afflicted with the *Scorvey*, and if they are, I am certain they have no proper name for it in French. 3. That all Heats, Spots, Blotches, and Pustles, that burst out into the Face and ambient skin, upon fretting of the humors, are Scorbutick Symptoms, pag. 234. l. 3, 4. which many Wine Drinkers are subject to in many places, where the Disease and name of the *Scorvey* are as little known, as the Man in the Moon. 4. That the fore-mentioned Scorbutic Eruptions, are onely safely cured by Remedies, that demulce and lenifie the incongruous Ferment (as is stiled fol. 340. l. 18. which is expressing an *ignotum per ignotius*) such are Starch, Gum Arabic, Gum Dragant, &c. These I am assured, never yet removed Scorbutic Eruptions, I cannot tell what they might operate at *Oxford*, and the Market Towns about it, where *Scorveys* are not so numerous, as to abstract observations from them, sufficient to teach the world a new Doctrin of Scorbutic Dyscrasies, and Copula's. But this I dare declare

for a truth, that real Scorbutic purple, and yellow, some red blotches and pustles, I have removed, and known others to do the like, only with Antiscorbutic Volatils; which manner of cure doth in no wise square with the Notion of *Rancid* blood. However it must be assented, that many Eruptions, such as are recited in p. 234. have been extermined by Contemperative Medicines, and Bleedings; but then they were not of the genuin Scorbutic issue. *In summa, admissio absurdo uno conceduntur mille.* Wines that have been disturbed by an Overfret, do seldom long continue only *Rancid*, but after a short interval, are incident into a *Putrid Acid*, far different from *Vinegar*, and in that particular, may more exactly square with Scorbutic blood; but it is not from Emplastic Lenients these Wines receive the least Rectification, for through them they are rather rendred far worse. For the removing this sort of dyscrasy, *Coopers* experience the scenting the Cask with *Brimstone*, to be very effectual in manner following; They dip a Linnen-rag into melted *Brimstone*, which being grown cold and coagulated on the Cloth, is kindled into a flame, and hung through the Bung-hole into the Cask, until the flame be burnt out, and upon that the bung-hole is stopp'd up close again; for the same purpose Lime, burnt Allom, and other materials, that are pregnant of an *Alcalious Salt*, are commonly used. 5. Upon the concession of the Authors *Rancid Hypothesis*, the blood of Scorbutics of that degree, ought to appear smoaky, sooty, empyreumatic, not easily coagulable; on the contrary, it's observed *Acid*, coagulable, ill coloured, &c. I will conclude this branch with a Caution, That all Innovators ought rather to Demonstrate their Notions *à Posteriori*, that is, they ought to invent and illustrate the Cause, by the Effects

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fects and Symptoms, and not to invent Notions of Causes, and by their Virtuality, or by what they probably seem capable to act, to assign their Effects; for that is oft contradicted by Experiment.

§ 3. The other Branch falling under our consideration, is the *Roapiness* of Wines, wherein the *Coopers* generally observe a Gradation of Alteration; for first they begin to Pall, and grow Flat, next they fall into Clots and Lumps of Gelly, and then they say, the Wine drinks tender; at last, their Clots running into one, causeth the Wine to become *roapy*. This the worthy Author affirms, is occasioned by the association of a lesser proportion of *Sulphur*, with a greater of *Acid Salt*, or *Tartar*. It's an universal remarque, that *Sulphur* and an *Acid Salt*, without some other *Intermedium*, that is amicable to both, are insociable; for affuse a *menstruum* purely *Acid* (as Rain water acuated with Oyl of *Vitriol*, *Salt Nitre*, &c.) to *Sulphur*, and digest it *ad infinitum*, no Tincture shall be Extracted, but upon the least digestion with a Lixive, or any Unctuous Liquor, the *Sulphur* yields its whole body, and entirely unites. 2. It's averred, *pag. 234. l. 31.* That *Roapy Wines* are reduced by fixt *Alcalies*; which on the contrary, I know some that arrive to their Mark, by dissolving *Rock-Allom* into them, that by all is agreed to be an *Acid*, and consequently doth subvert this *Roapy Hypothesis*. 3. The blood of those *Scorbuticks*, that contract their Distemper on a long Voyage at Sea, must be allowed to be either *Rancid* or *Roapy*. That it's the latter, the Symptoms mentioned *Tract. de Scorb. pag. 234. l. 21. 22, 23.* declare, *viz.* Cutaneous Eruptions, Sloath of Limbs, Difficulty of Breathing, &c. with which *Scorbutic Sea-men* are sufficiently infested.

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The remedies used successfully by them are *Acids*, viz. Juice of Limons and Oranges, Tamarinds, Spirit of Salt, &c. on the contrary, they experience Spirits of *Scorvey-grass*, of *Sal Armoniac*, and others of that nature Detrimental. The Argument collected hence à *Juvantibus*, which are *Acids*, evinces their blood to be *Alcalious* and *Lixivial*. So that I may safely conclude, that our Authors *Hypothesis* is not only erroneous, but too scanty, since it only appoints *Contemperatives*, and *Volatil Alcalis* for Remedies; and those being mis-applied (as too frequently happens) are unpowered to render the Disease far worse, and prove it into a *Terminative Scorvey*. 4. I discover a great Contradiction, in illustrating some *Alcalious* and *Lixivial* Symptoms, to proceed from *Acid* causes, viz. *Pendulous* blood, which though not agreeable with his supposal, he asserts that the *lixivial* parts abscede from the blood, by being dissolved in the *Serum*, having quite forgotten his *Pendulous Acid* principle. Thus I read, pag. 256. in *Sign. 8.* the *Ætiology* of *Lixivial Urine* expounded, which Paraphrase is no where received, but in the Latitude of §1 $\frac{1}{2}$. §ly. To evade all Objections, and to render Notions more plausible, his Discourses are observed, to be armed with a Quinary number of Principles, viz. *Spirit, Sulphur, Salt, Water, and Earth*, by which to illustrate the Nature of Bodies, will prove as superfluous, as (in his own phrase, p. 3. l. 28. *Diatr. de Ferment.*) to say, a House doth consist of Timber, Wood, Stones, Brick and Lime. For a Spirit being a composite of *Salt, Sulphur, and Mercury*, signifies it self to be a *Principiatum*, and not a *Principium*. For proof, I offer the most *Alcolized* Spirit of Wine, which in the process of *Spiritus Calvus*, being oft abstracted from *Calx Vive*, its *Volatil Salt* (which formerly I have demonstrated

monstrated to be *Fixt Salt*, rendred *Volatil* by the admixture of *Sulphur*) is refixt, and detained by the *Alkali* of the *Calx*, so that at last nothing passes the *Alambic*, but a pure *Lymph*; whence it's evident a *Spirit* is a *Compound*, and no *Principle*, which ought to be *Simple*. The next multiplication of *Principles* is the staring *Earth*, and *Salt*, different *Elements*, which in effect are *realiter* the same, though of distinct *Nomination*. *Earth* is an immature *Salt*, which by *Digestion* easily passeth into a *Salt* body. The *terra damnata* of *Vitriol* affords an indubious *Argument for Evidence*: This though very well washed from the *Fixt Salt* it contains yet being exposed to the warm *Sun* for some long time, and then washed over again, yields a considerable quantity of *Vitriolat Salt*, which that it is not attracted out of the *Air*, but engendred by *Digestion* of its *Substance*, appears by the diminution of weight of the said *Terra damnata*, after it is washt. So that the difference between *Salt* and *Earth*, is no other than between *Stone* and *Brick*, or a *Heterogeneous Copula*, and an *Incongruous Ferment*.

C H A P. XI.

Containing Practical Observations preliminary to most Scorveys.

§ 1. **T**He *Practical Observations* which I do here propose, will render *Obvious* to you, how the blood declines into a putrid *Acidity*. It is a *remarque* I have at sundry times made, that some bodies, before they expressed any *Sign* or *Character* of

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Of being molested with an *Acid Scorbut*, undergo a smart Ebullition of the Liquors in the vessels, depending upon an accession of the Spirits, and deflagration of the Bituminous Particles of the Blood, whereunto some Catarrh, Rheumatism, Lassitude, Pain in the Head or Bowels, or some other Symptoms, are attending, which render it dubious, whether this sort of Fever be Essential or Symptomatick; however Antifebril Remedies, as Bleeding, Purging, Contemperatives, and Sudorificks are prescribed, the success whereof in the space of three or four dayes, commonly amounts to the abatement of the Fever and other Symptoms; though not to a perfect restitution of Health, the Patient for some short time possessing only the condition of a neutral State; hereupon manifest Scorbutic symptoms begin to take up their quarters with him, as Lassitude, Sloath in Motion, Difficulty of Breathing, Indigestion of Stomack, Interrupted Sleeps, and Disturbed with Dreams, Spots, Blotches, and the like.

§ 2. The content of the præmised Paragraph I do affirm to be the Morbifique transaction in some, though in others I likewise observe, that the preceding Ebullition, or Tumultuation of the blood is not so vigorous, as to cause them to think more, than that they only are a little out of order, and so the Juices of the Vessels detumefying, leave them in a kind of neutral state; which manner of Ebullition and Intumescence oft returning, Increasing and decreasing, doth at last result to the same Effect, as if it had been as smart, as what is above described. These are certain and true Observations, any Physician may make on bodies, before the *Scorvey* declares. A third observation I shall subjoyn, after the Explication of the two former.

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By these prævious commotions the blood is grown extremely Turbid and Disturbed in its parts, mixture, consistency, nitour, sapour, and other qualities, like Water in a River, that's grown muddy and thick upon a storm, raising those impurities, that lied on the bottom. Now the sæculencies and *Acid* tartarous humours, that by stagnating in the Vessels of the *Mesentery*, and other remote parts, being raised, and commixt with the Mass of blood, choak up and extinguish the *Spirits* and *Volatil Salts*, damping withall the flaming of the bituminous particles, upon which the Ebullition ceaseth. The cause of these Ebullitions is the saltness, induced into the humours by a *Salin Air* and *Diet*, which obtaining a power of condensing, and congregating the *Spirits* or *Volatil Salts*, and sulphurous or bituminous particles of the blood, cause an accension of the foresaid *Volatil Salts* and *Sulphurs*, whereunto by constipating of the Pores the gross *Salin Air* doth also very much contribute. In this conflagration the *Volatil Salts* are in a great part dissipated and consumed, the other part stifled, choakt, or extinguisht by the rising of the *Acid* *salin* dregs, whereby the whole Mass is not only turned *Acid* (how the dissipation of the *Volatil Salts* occasion an *Acidity*, you have read before) but grows putrid *Acid* by the commixture of fuliginous acrimonious Salts, that through the foresaid ebullition and conflagration are occasioned, and through the constipation of the Pores repelled into the blood. The cause of the latter Observation may easily be collected, from what is here set down touching the former.

§ 3. A third remarque taken from Scorbutics is, that many gradually and insensibly without any such

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such prævius Ebullitions, as are above mentioned, undergo an alteration in their Temperament and Faculties; first observing a sloath in their Limbs, nauseous spitting in the morning, an ill brassy taste in their mouth, crudities and imbecillity of Digestion; afterwards do succeed Spots, Laxity, and Discoloration of Gums, stink of Breath, and so the rest in order. The Cause of this sort of morbidique progress is the blood, gradually declining to a putrid *Acid*, in the same manner as hath been explained in one of the fore-going Chapters.

Though the first of these three Observations seem to have some resemblance to the nature of *Rancid* blood, occasioned by Fretting or Fermentation, and the manner of Cure appointed in the oft cited Treatise *de Scorbuto*, to be performed by Demulcers of the blood, as Phlebotomy, and Contemperatives; upon a more deliberative consideration, you will conclude their difference almost contrary to each other; for, 1. All Ebullitions, especially that expressed in the Illustration of the foresaid first Observation, are not Fermentations. 2. The *Oxonian* Author infers all *Rancid* blood Scorbutic, though it be still on the Fret, which is greatly erroneous, the *Scorvey* being a Chronic or long tedious Disease; this a prævius distemper, that is soon removed, or at least altered into a contrary Intemperament, viz. From an Acrimonious hot, to an *Acid* cold Disease. 3. The foresaid notion is highly dangerous, and oft proves fatal, in deriving thence a method of Cure; for forming indications, that this being a hot sulphurous distemper, lenient and cooling remedies are indicated, which if long continued after the Fermentation is quieted, and an *Acid* disposition introduced, do render the Disease incurable.

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§ 4. It is only in some, that this Ebullition is a precursor to the *Scorvey*, whereas the Notion of *Acid* blood doth infer all *Scorveys*, that are not depending on pendulous blood, effects of an immoderate Fermentation.

C H A P. XII.

Declaring a further Illustration of a Saponary Leg-Scorvey.

§ 1. I Have formerly observed, that an *Acid Scorvey*, upon a long continuation, changeth into a *Saponary Scorvey*, which as was hinted before, is the cause of some *Leg-Scorveys*, whose symptoms, are Inflamed, Tumefied, Corroding, Phagedenic, Cancerous Ulcers, hot burning and pricking Nocturnal Shin-pains, frequent glowing of the Calves of the Legs, and Plants of the Feet, an *Erysipelas Phlegmonodes* of the Legs, falln pungitive Rheumatisms and Defluxions to the *Periostium* of both the *Fossils*; besides a saturated Lixivial Urin, a fuliginous foul stink of the body; the blood when extracted by Phlebotomy appears of a deep inflamed Subpurpureous aspect, besides many other Symptoms, all which to any Judicious Physician are sufficient Testimonies of an *Alcalious* constitution of Humours. But this is not all; for the blood in this case is not only *Alcalious*, but *Saponary*, as now will be made apparent to you. There being a large proportion of impure *Sulphur*, or gross bituminous particles, mixt with the humors in this degree of *Scorvey*, the *Alcalious* fiery Salts do easily attract,

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colliquate, and unite them to their own Particles, which absorbing the *Serum* in a great measure, must needs render the blood thick, cohæring, and a little obdurable.

§ 2. That the bituminous parts of the blood are so apt to be united to the *Fixt Salt*, is evident from the ready commixture of Tallow, Train Oyl, or other unctuous bodies with Pot-ashes in the Composition of Soap, from the resemblance whereunto (as formerly hath been intimated) I have termed the fore-mentioned constitution of blood *Soapy* or *Saponary*. The same promptness of Union several other Chymical preparations do likewise confirm, as in particular; the Ebullition of Sulphur with the dissolution of Salt of Tartar, fixt Nitre, or a Lixive of *Calx vive*, in the process of *Lac Sulphuris*; also in the preparation of Hartman's Sulphur of Antimony, where the Antimony being fused by the violence of a ventous Fornace, and instilled into the deliquescent Oyl of Tartar, its Sulphurous parts are immediately Imbodied with the *Alkali* of the foresaid Tartar. Whence we may plainly collect, that in our Authors *Pendulous Diathesis* of the Cruor, which by him is supposed to be *Acid*, there is no probability of their ready Coalition. And after all, I must tell you, that the blood in that sort of *Scorvey*, which is not *Rancid*, as he terms it, is not absolutely *Roary* or *Pendulous* like Syrup, *Barbadoes Triacle*, or *Theribinthin*, as the *Oxonian* Professor intends it, but far different.

C H A P. XIII.

Of the Causes of Scorbutic Symptoms.

§ 1. **I**N course I ought next to adapt these preceding Causes to their Effects, *viz.* Scorbutic Symptoms, in which I judge I shall not find that difficulty, or be obliged to strain the former, to square them with the latter, since I arrived to the Knowledge of them by the observation of their Effects. I shall commence with the Explication of the cause of Lassitude, and Sloath of Limbs, as ordinarily the first budding in a Scorbutick Body. A Lassitude, Debility, and Sloath of Limbs, are affections of the Nerves, which originating from the marrow of the brain and back, must necessarily derive their Causes thence, unless we should conceive them naturally to draw in at both ends; but there being usually concomitant other symptoms of an affected Brain, as Drowsiness, Obtuseness of the internal senses, &c. doth amply confirm, what is asserted. Wherefore the Blood according to the first Observation mentioned in *chap. 11.* being affected with a tumultuation, the Spirits and *Volatil Salts* are inflamed, and rendred Acrimonious, which being the principal constituents of the animal Juices, must necessarily prick the Nerves, through which they pass, and incommode the Nervous parts, to which they are transmitted. As for the Imbecillity and sloath of Limbs, also the obtusion of the Animal Faculties, they depend on the intemperature of the Animal Spirits, not being potent enough to perform their offices with alacrity, to which they
accusto-

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accustomed just Temperament is absolutely requisite. By the way you are not to apprehend here, that the said Lassitude is occasioned through a Fermentation, hapning upon the appulse of the *Nervous Liquor* (rendred *praternaturally Acid*) to the Articles, and there meeting with *Lixivial Blood*; for the constitution and temperament of the *Nervous juices* are not so extreamly different from that of the *Blood*, as to be contrary to it, which in this sort of Fermentation or Ebullition is necessary it should: I can conceive no more difference between them, than between *Spirit of Wine* and *Wine*, which former cannot be indued with any other qualities, than what it derives from the latter. And here it is, that trite Maxime is verified, *Vitium primæ cōctionis non corrigitur in secunda, nec secundæ in tertia*. So that, if the constitution of the blood in the Arteries be *Acid* and not *Lixivial*, the Animal juices must likewise be *Acid* and not *Lixivial*, as being engendered by a further digestion out of the said Arterial blood. Hence I argue, that Arthritic pains in the *Scorvey* do not proceed from a Fermentation between an *Acid Nervous Liquor*, and *Lixivial blood* about the Joynts; moreover as you shall be further satisfied below, the *Lixivial Salts*, that are cast forth to the circumference in an *Acid Scorbut*, do not partake of an Acrimony, or at least not so intense, as to excruciate the Limbs with those insufferable pains. But after all, the indication desumed in this case from the *Nervous Liquor*, assigns an Alcalious Medicine, and that which is collected from the *Lixivial Blood*, indicates an Acid; an absurdity not to be admitted in Physick, that one and the same Disease should require two Medicines *per se* contrary to one another.

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Neither can I assent to that opinion *Tr. de Sc. p. 250. l. 25.* which asserts the cause of a spontaneous listitude and weakness of the knees and legs, to be an infraction of the pores of the Muscles with Extrematitious humors, through which the Animal Spirits are obstructed in their passage; for it is not observed, that there is any Tumor or Tension in the flesh of the said Muscles, but commonly hangs lank and lax; on the contrary, where there is a real Tension and Tumefaction of the Musculs of the Legs, which some gross bodies are subject unto, we do not find any other, than a small compression of the Nerves and Tendons, notwithstanding which, the Animal Spirits have their free influx and reflux, and the Limbs their sense and motion; wherefore if there be no obstruction or constipation in this case, much less in the other, and consequently it must be the Animal Faculty and Locomotive Spirits, being præternaturally affected, that are the occasion of these last fore-mentioned Symptoms.

§ 2. The *Dyspnœa* or difficulty of breathing, that so oft is implicated with the *Scorvey*, depends on the stagnating of gross Acid Blood in the *Vena Arteriosa* or *Arteria Pulmonalis*, *Arteria Venosa* or *Vena Pulmonalis*, and in the Pores of the *Parenchyma* of the Lungs; for every *Systole* propelling the streams of Blood into the foresaid Artery faster, than it is received through the Pores of the *Parenchyma* into the *Lung Vein*, the Lungs must necessarily be stuffed, swelled up, and consequently much oppressed by the weight of this stagnating blood. But that I may prevent you from lapsing into the same error my Author is fallen into, it's convenient I acquaint you here with the meaning of *Dyspnœa* or difficulty of breathing; *Respiratio Aëvelosa*, or short and thick breathing.

breathing, or in the common phrase, *Short windiness*, *Asthma*, or improperly *Phytick* and *Orthopnea*, or the worst and extream degree of *Phytick* and their difference; for *qui bene distinguit, bene docet*. In a *Dyspnœa* the breathing is somewhat long and slow, with the sense of an oppression or weight, as if something kept the Lungs down. A *Respiratio Anhelosa* is a quick and thick Breathing, as you may perceive in your self, after any smart Exercise, as Running, or Carrying a Weight, &c.

An *Asthma* is a thick and short breathing, accompanied with a wheezing noise, and commonly also with a Cough. An *Orthopnea* is a long and slow expiration, and a quick catching (as it were) inspiration, attended with such a stifling, that the Patient is forced to sit upright, thrusting his Mouth up and gaping for Air.

A *Respiratio Anhelosa* is also frequent among Scorbuticks, and is occasioned by a Putrid Acid blood that is (as I have told you before) Fuliginous and Acrimonious, by means of those sharp sooty steams it irritates, and prompts the Lungs to a quick breathing, to prevent stifling, and to attract a clearer Air instead of those sooty Evaporations, which in some I have observed so copious, that their tongue was covered with a black scum, not unlike what is frequently taken notice of in continual ardent Fevers.

§ 3. As the Pulse in respect of quickness and æquality of motion, doth proportionably correspond with the Respiration in a healthful, and likewise in a morblisque state; so it doth in the *Scorvey*, where in this degree it's quick, frequent, and unæqual in motion, which is occasioned by the same cause, viz. by Acid Fuliginous Blood,

stimulating

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stimulating the Vital Faculty of a quick motion, and imposing a necessity on the Ventracles of the Heart to an expeditious explosion of the Acrimonious *Cruor*. The inequality of Pulsation depends on the unequal mixture of the Blood with those Fuliginous steams (or *Heterogeneous Copulas*) that do so unequally vellicate the sides of the Ventricle.

§ 4. A ruddy and thick Urin is most commonly an attendant of a *Preliminary Scorvey*, which is comprehended and specified in the two foremost Observations of *Ch. I I*. the production whereof is a dissolution of those deflagrated Salts and Sulphurs in the *Serum*, which afterwards is præcipitated by the *Putrid Acid*, that's ever a sequel to the Scorbutique Ebullition, and so abandoned to the Kidneys and Ureters; but as the said Ebullition doth only occasionally happen now and then, so the fore-mentioned ruddy Urin doth only appear on those occasions. For the greater part the Urin is turbid, and copiously saturated with a thick sediment, that is apt to furr to the sides and bottom of the Chamber-pot, being nothing else, but an excretion of crude indigested Tartar, or Acid Salt, from the Mass of blood; if at some seasons the Urin appears thin and aqueous, that may happen either thorow the potent coagulative quality of the acidity in the Blood, not separating the superfluous and excrementitious Tartar; or through some obstruction of the passages, leading to or from the Kidneys, suffering the thin only to pass, and retaining the thick. Moreover observe, that in those thick drabby Urins, upon some standing the gross sediment is apt to sink to the bottom, leaving the middle clear and transparent, and a cream swimming on the top, which is nothing but the mucilaginous part of the
Tartar,

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Tarrar, through its lightness recovering the surface of the Urin.

§ 5. Spots and Blotches of several colours do ordinarily survene a *Scorvey*, and are caused by a condensation of the sulphurous parts of the Blood, that are deflagrated, and *Volatil Salts* amortized through the *Acid*, in the pores of the ambient skin or *Cutis*, where they are depofed or deserted by the *Acid Blood*, withdrawing it self from them, and through its penetrative faculty insinuating into the Veins, returns by the circulative motion into the Body; whereas the others being so much obtused, are rendred incapable of reverting into the Vessels. These Spots and Blotches are not dolorous, because the acrimony of the depofed Salts is obtused; their colour if red, they derive from the Sulphurous or Bituminous parts of the blood, mixt with the Volatil or Amortized Salt; if yellow, from an admixture of part of the *Acid Salts* condensed and obtused by the reaction of the said *Volatil Alkali*, which now mentioned obtused *Acid*, if left commixt in a greater proportion with the *Alkali*, and with a lesser proportion of the Bituminous particles, render those Blotches of a livid tincture.

The production of Scorbutic Pustles and Bitches differ from Spots and Blotches in this only, that the Salts in these latter are dilured, or dissolved in some part of the *Serum*, which in the former are more condensed and coagulated. Some of these are without pain; others are painful; the latter happening, because the acrimony of the foresaid Salts is not totally obtused by reaction.

§ 6. The bleeding of the Teeth, frequent Hemorrhages of the Nose, and Hemorrhoids, also immoderate

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moderate Menstruations, and sometimes a bloody Flux are Symptoms of this Disease, occasioned through a serous *Acid Blood*, rendred acrimonious and corroding by the imbibition of fuliginous Salts, corroding the termination of the Vessels. Note, that in most Scorbutics are two sorts of blood, *viz.* A gross and sæculent blood, coagulating and præcipitating it self from the more serous and fluid parts. The gross blood floats about the Entrails and lower parts, and is $\kappa\alpha\tau\alpha\rho\rho\omega\pi$ \odot ; so the other being more fluid and light, is more apt to be $\alpha\nu\alpha\rho\rho\omega\pi$ \odot , and to stream upwards. Those intollerable Gripings of the Guts without a looseness, which Scorbutics here are so miserably tortur'd with, are likewise occasioned by the same corrosive Humors, or rather nitrous *acid Juices*, infesting the nervous, and consequently most sensible Tunics of the small Guts. That the cause of these Autumnal Epidemic Gripings of the Guts, the inhabitants of this City are so much exposed to, is a *Nitrous Acid*, appears partly by the *Procatarticks*, *viz.* Liberal Drinking cold sower Small-beer, when they are heated by the æstuating Rays of the Sun, going cool in their clothes, and lying half naked in bed, immoderate eating of horary fruits; and partly by the Cure (*Argumentum à Juvantibus*) Volatil Salts and Aromatics, not only giving ease, but oft removing the Distemper. But that these *Acid Juices* should distil from the Brain through the Nerves, or be the *Liquor Nervosus* rendred *Acid* (as our Learned Author asserts in a late treatise intitled *Pharmac. Irrationi*) and all this while the Brain continue unaffected with any Symptom, *Non credo*.

Whence frequent Spitting, Laxity, Discoloration, Corrosion, and pain of the Gums and Teeth do proceed, hath been declared formerly.

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§ 7. The Fainting and Palpitation of the Heart is caused by fuliginous acre steems, suffocating the Heart in the former, and Vellicating its Ventricles in the latter.

From what hath been already explicated, may easily be Collected the cause of Vomiting, Nauseousness, Punctorious pains of the sides of the Breast, tearing pains of the Stomack, Loosness, Head-ache, &c.

§ 8. Those Erratic Fevors, that ordinarily are observed to attend the *Scorvey*, are oft occasioned by a copious quantity of Fuliginous Salts, that have been Deflagrated, and by their long continuance have attracted some proportion of impure Sulphur, and so take flame again.

C H A P. XIV.

Of the Description of the Scorvey.

§ 1. **T**He *Scorvey* being seated in several parts of the body, occasioned by various Causes, and attended with a train of all manner of symptoms, appears as if it had no certain Essence, and consequently is not capable of a description so Pathognomonic, as other Distempers, and therefore you must be contented with such as can be given of it, viz. The *Scorvey* is an Universal, Multiform, Variable, Endemic, and Contagious Disease of all the parts of the Body, particularly of the Stomack, Spleen, and Liver, occasioned by a Salin Blood, and attended with a Cachexia of all the parts, Spontaneous Lassitude,

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ude, Pesanture and Imbecillity of the Limbs, but especially of the Knees, difficulty of Breathing, sore and lax Gums, Spots, Blotches, Pustles, &c. The Universality of this Distemper consists, 1. In Attaquing all People generally more or less, inhabiting a Scorbutic clime. 2. In a Præternatural disposition of all the parts. It's Multiform, because it assumes all shapes of Diseases, there being scarce any Distemper, which in one Symptom or another, it doth not resemble. Moreover, it's a Cold, Hot, Dry, and Moist Disease, as it's Symptoms do plainly demonstrate, viz. Inflamed hot Pustles, Erysipelas, cold Oedematous Legs, moist Rheumatisms, dry Scabs, &c. It's also variable in all manner of respects, 1. Variable in the Subjects, there being scarce two in a hundred, whose symptoms are alike. 2. In the parts affected, being commonly chiefly rooted in the Stomach, sometimes in the Spleen, other times in the Liver; moreover, *per melasivum*, oft transferring its head quarters from one part to another, and exchanging the whole Syndrome of Symptoms into another quite different, and also in progress of time passing from an Acid into a Lixivial and Saponary Scorvey, or from a Mouth-Scorvey, into a Leg-Scorvey, and thence into a Joynt-Scorvey, or sometimes into a Terminative Scorvey. That this Distemper is Endemic (*tam ratione aeris quam aquæ*) hath been declared elsewhere; and certainly it is Contagious, since most Endemic Maladies are so, there being ordinarily Miasms, or perfect Scorbutic seminaries transported, by means of the Vehicle of the air from one body to another, which obtaining a power of producing their like out of the humors of such Bodies, into which they are transferred, engender an absolute Scorvey, in a far less space of time, than if it had primarily took

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Its rise in that manner, I have heretofore explained. All the parts of the Body and humors being thoroughly infected with the Scorbutic Seminaries, the Spermatic parts cannot be free, which must therefore also render this Distemper *συγγενής* and Hereditary. 1. By means of the *Semen* of the Parent, and its plastic faculty. 2. Of the Uterin Blood. 3. Of the Milk assuaged by the infant, whence we may term it *συντροφικός*. 4. Of the Contract (*συναγωγός*) of the Lips of the Mouth, and Ambient Skin of the body, whereby the Scorbutic *μίασμα* is transferred to the Child by being kissed or hugged by the Parents, and lying by them in bed. But because you shall not only be satisfied with my Information, give me leave to acquaint you what *Platerus*, the Learned Professor of the foregoing Century at *Basil*, reports of it, pag. 355. This Malignant Disease when it first discovered it self in the Maritime Northern parts, and proved Contagious, gave men a small suspicion, That from remote Countries, which these people that cross the Seas do in our age discover, almost to the extream borders of the Earth, and where possibly it is familiar; it was transported first to these places that are near the Sea by Seamen.

§ 2. Definitions or Descriptions are rarely so perfectly made in the Art of Physick, as to rescind the occasion of all objections from Cavillers, and therefore to prevent that Risk, I will be Opponent to my self, in forming several Doubts and Objections against the Definition by me proposed in this Chapter. First, I offer this Question, Whether the *Scorvey* be a Manifest or Occult Disease, that is as *Fernelius* doth term it, a *Morbus totius substantiæ*? Some that argue from Authorities, probably may offer the Sentiments of *Platerus*, *Sennertus*, *Straglinus*,

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hius, and others. The first of these asserts the *Scorvey* to be an Occult, Malignant, and absolutely Venomous disease. The second gives us a definition (which as I said before, the *Scorvey* is not capable of, as having no essential difference) in these terms. *The Scorvey is an Evil and Occult quality, or disposition, impressed on the whole Body, but chiefly on the Bowels, that are destined for Nutrition, arising from a gross Melancholy Humour, that's Ichorous or Serous, and corrupted in a peculiar manner, or, saith he, It is a certain Evil Nutrition, or ill Habit of the Body, &c.* The last expresses it, to be a Moist distemper of the Spleen, occasioned through the putrefaction of the thick Humour, which the Spleen delights in. The foremost Opinion may easily be Refuted, since the Symptoms of the *Scorvey* may be plainly deduced from Causes, that are obvious and manifest. 2. All Venoms do immediately assassinate the Heart, dissolve the *Vinculum vitæ*, and have this Qualification appropriated to them, that they are only to be Expelled by their Antidotes; but common Observation tells us, that the *Scorvey* moves gradually, is more ordinarily seated in the Spleen, or Stomach, than the Heart, and is cured by Medicines, that operate by a manifest and not occult quality, namely such as are of a subtil igneous and colliquative faculty, as *Scorvey-grass*, *Water-gresses*, &c. The second Definition favours much of the first, and renders it a *morbis totius substantiæ*, which that it is not, appears from the former Answer. *Stueghius* will have it a moist disease, and asserts Melancholy a Drying humour, the continent cause; which however *per accidens* may produce a moist distemper; but waving that, it is most certain, that in many Scorbutics the Spleen is not affected, and therefore cannot be described to be a moist distemper of the Spleen.

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§ 3. The next Quæry is, Whether is the *Scorvey* a *Similar*, or *Diffimilar* Disease? Some that do allow the *Scorvey* a Disease of very ancient date, adjudge it a *Diffimilar* disease, and in particular a Disease of Magnitude, viz. A great Spleen. Pet. *Forestus* asserts it a compounded disease, and not Simple. The fittest answer to this in short is, That primarily it is a *Similar*, and secundarily a *Diffimilar* Disease.

§ 4. The third Quæstion is, Which is the part principally and originally affected in the *Scorvey*? *Horslius* states the Spleen the part affected, others the Stomach only, and many the Stomach, Spleen, and Liver. If in some it be observable (as it is) they are troubled with luxuriant glowing Gums, and vacillation of their Teeth, without the concomitance of other symptoms, in all probability it is the Stomach is the only part affected, there appearing no sign or symptom of any other entrail, that is affected. On the other hand, if no other symptoms Emerge, besides blewish Scorbutic Pustles or Bloatches, it may rationally be concluded, no other part is affected but the Spleen. It has been also observed by *Forestus*, and *Reusnerus*, that the Spleen and other Entrails have not appeared much affected in some deceased Scorbutics, but the Liver chiefly, wherein was observed a great discoloration, and dissolved unity of its substance. Whence we may deduct, that a *Scorvey* that's contracted by a *Salin Diet*, the Stomach is originally and primarily affected, in that which is occasioned through a *Salin Air* the Spleen, but after some continuance they become all parts equally affected.

CHAP. XV.

Of the Differences of the Scorvey.

§ 1. Subjects that consist of a mutable Nature require exact distinctions, which are to be defined. 1. From its growth, whence the *Scorvey* is called either *Preliminary*, *Liminary*, *Recent*, *Inveterate* and *Terminative*. A *Preliminary Scorvey*, I must confess, is very improperly named a *Scorvey*; for being absolutely considered in it self is no *Scorvey*, but in a Relative and Subsecutive way I have imposed that Denomination only *Doctrinae gratia*, to express the root whence a commencing *Scorvey* doth spring and bud forth. This being præmised, I intend those Ebullitions comprehended in the Observations that are delineated in Chap. 11. for a *Preliminary Scorvey*, because they præcede, and are, generally *Preliminary* to a *Scorvey*. A *Liminary Scorvey* is that, which upon the quietation and subsidence of a *Preliminary Ebullition* buds forth. A *Recent Scorvey* is a confirmed *Scorvey*, but of no long standing, and is answerable to the augment of the Distemper. An *inveterate Scorvey* is a Distemper of a long continuance, and alludes to the state of the Disease. A *Terminative Scorvey*, is that Disease whereinto it doth pass, and puts a termination to the Distemper and Life also; as a *Scorbutic Dropsie*, or *Consumption*, &c. for it is such a sort of Disease the *Scorvey* doth at length terminate into, and so prove Mortal.

§ 2. From the manner of its Origination, in which respect it's either *Hereditary* and *Connate*, when it's either *Hereditary* and *Connate*, when it's derived from the *Scorbutic* indisposition of the Parents; or *Adventitious*, which is engendred some time after one is Born; and this is twofold, for it's either *contagiously adventitious*, when gotten by Infection, or *non-naturally adventitious*, that is, when contracted through fault of some of the *Non-naturals*, as Salt Diæt, Salin Air, Melancholly, want of Stirring, &c.

§ 3. From the parts Primarily and Principally affected, this *Disease* is termed an *Hepatic*, *Splenic*, or a *Stomachic Scorvey*.

§ 4. From the internal Cause, it's stiled either an *Acid*, *Lixivial*, or *Saponary Scorvey*.

§ 5. From the parts where the Symptoms do concentrate and clot together, it derives the name of *Mouth-Scorvey*, *Leg-Scorvey*, or *Joynt-Scorvey*. By the way I must give the Reader this advertisement, That in a *Mouth-Scorvey* the Symptoms are not so limited, or circumscribed, as to extravague no farther than the Mouth, but that some slight superficial Symptoms of the other kinds are also attendant, *viz.* A great weakness or feebleness of the Knees, spots about the Legs and Arms, Blotches in several parts, especially in or near the Groin, Ambulative glancing pains about the extreme parts, &c. So likewise in a *Leg-Scorvey* some Symptoms of the Mouth and other parts are remaining. So that this distinction doth chiefly take its denomination from the greater number of urgent and remarkable Symptoms, that haunt the Mouth, Legs or Joynts.

§ 6.

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§ 6. From some prædominating Symptoms the Scorvey oft takes a particular Nomenclature; from an *Asthma* it's called an *Asthmatic Scorvey*; upon the same account it's stiled a *Rheumatic Scorvey*, a *Torminous* or *Gripping Scorvey*, a *Diarrhæus Scorvey*, an *Emetic* or *Vomiting Scorvey*, a *Flatuous-Hypocondriac Scorvey*, a *Cutaneous Scorvey*, viz. of Spots, Pustles, Blotches and Pimples, an *Ulcerous Scorvey*, a *Dolorous Scorvey*, &c.

§ 7. From the occultation or hiddenness of the Symptoms within the Body, it may be called an inward, hidden, or *Latent Scorvey*, which doth not manifest it self in Symptoms that are external and evident, as Spots, Mouth or Leg Symptoms; but without the Concomitance of these, there is onely observable a Neutrality in point of Health, a defection of Appetite, some small oppression of the Breast, a diminution of ones usual inclination to stirring, and some little hebetude or dullness of the Senses, &c. or a *Manifest Scorvey*, appearing in external Symptoms.

§ 8. From its manner, it may be termed a *Mild* or *Malignant Scorvey*. From the Countrey or place where it reigneth, it's called an *English*, or *Dutch Scorvey*; also a *Sea*, or *Land Scorvey*.

§ 9. It is not to increase the bulk of this Tract, but the great use that may be made of these differences and distinctions, as you will in their proper places observe, hath been the occasion of inserting them in this Chapter; the truth hereof will manifest it self, when you come to understand, that many patients are frustrated of their hopes of Cure, and some præcipated to their Tombs, thorow the

neglect and error in making a right distinction of their Disease, its degrees, and its various mutations, which sometimes is to a contrary distemper; and it is here chiefly, that I pretend to be particular, whereas the Vulgar Hackney Physician neglecting the Journal of progressions in Maladies, followeth onely the common Tract of Method and Remedies, and therefore frequently misseth his scope of restitution of health.

CHAP. XVI.

Of the Diagnostic Signs of the Scorvey.

§ 1. **A** Preliminary Scorvey is not onely discovered by preceding Scorbutic Procatarricks, but also by the Pulse and Urin, the former beating not so unæqual, as in continual putrid Fevers; neither is the heat so pungent, but glowing only, that is obtuse and fuliginous: the latter is commonly of a higher colour, than in an ordinary continual Fever it can arrive to in so short a space of time, and very abounding in a gross ruddy sediment. Moreover the ebullition of Blood is of no long continuation, but in a few dayes is apt to fall and subside, unless provoked by the error of the Physician or Patient,

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§ 2. A *Liminary Scorvey* some do decipher by these four *Pathognomonic Signs*, 1. A livid and deadish Complexion of the Face. 2. An itching deep redness of the Gums. 3. An Oppression of the Brest and Respiration, also of the Sides about the Bastard Ribs. 4. A Painful Feebleness of the Knees. These we grant to be common Signs in an evident commencing *Scorvey*, but not *Pathognomonic*, because they do not alwayes attend every *Scorbutique*; for I have met with some, that without those Symptoms before-mentioned, have been disfigured with livid *Scorbutique Spots*, likewise some whose Mouth and adjacent parts were affected, without the least sense of feebleness in their Knees, or oppression of Respiration: Lastly, Those that are molested with a *Latent Scorvey*, are exempted from several of the prænumnerated Signs.

To these common Diagnostics must be added a fifth, A great heaviness of all the Body, and lumpishness or dulness of the internal and external Senses. 6. The Appetite in some is obtused, in others it's so much sharpened, that they are apt to covet more than they can digest. 7. A *Beagvæxia*, or the digestion of the Stomach somewhat impaired of its wonted vigor; as appears by a small heaviness and drowsiness after Meat, and accompanied with Belchings and Winds murmuring downwards. 8. The Urin is less transparent, and grown a little turbid and drabby. 9. All these may be confirmed, by considering the *Procatartic Causes*, viz. Whether they have lived in a *Scorbutic Air*, or fed upon Salt Diæt, or by reason of Imprisonment, or other voluntary Confinement, have neglected all manner of Exercise, or whether they have been under some occasional Melancholy, or whether some

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usual evacuation, as the *Menstrua*, Hæmorrhage at the Nose, or Hæmorrhoids, Issues in the Arm, Neck, or Leg, or in any other part, be not suppressed. Or whether they are not Splenetic or Hypochondriac; or have lately been troubled with a Quartan Ague: Or whether their Parents were not subjected to the *Scorvey*, whence it might be æsteemed Hæreditary; or lastly, whether they do not daily converse with Scorburics, whereby it might become Contagious. Consider also the *Juventus*, and *No-centia*, what things help them, and what hurt them.

§ 3. The signs of a *Recent*, or *Augmented Scorvey*, are, 1. A spongy swelling of the Gums, which upon the least pressure, or biting a piece of bread, are apt to exudate Blood. 2. A great stink of the Mouth. 3. Loosness of the Teeth. 4. Spots like Eleabites, and Freckles dispersed over the whole Field of the Body, but thickest about the Mouth, Temples, Arms, Breast, and Knees; some are Red, others Yellow, Grayish, Dusky, Purple, or Blackish, easily disappearing in one place, and emerging again in another. 5. A deeper transmutation of the Complexion into an ill habit of Body, the looks seeming Yellowish, Greenish, deep Red, Sallow or Swarthy. 6. The oppression of the Lungs, Breast and Sides is considerably increased, insomuch that when they stir or rise up, they are subject to faint and gasp for Breath, which continueth so long, until they sit, or lay themselves down again. 7. Puffing up of the Stomach particularly after Victuals, and Tension of the Belly. 8. The weakness of their Knees and Anles, is likewise much augmented, which renders them far more Impotent in going, or moving. 9. It's observed, that in many the

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the whole train of Symptoms is apt to be intended or increased every fourth day, in some every third day, that is every other day (for Physicians do reckon inclusive) in others at certain seasons every day. 10. In this degree they are usually Costive. And 11. troubled with Pain and Stitches all over. 12. Suppression of the *Menstrua* in Women, in stead whereof, they are molested with a sort of painful Whites.

§ 4. In an *Inveterate Scorvey*, these Practised Symptoms and Signs, as they have taken deeper Root, so have also assumed a greater intension and stubbornness; for in this degree the Patient is deprived of all power of Moving or Stirring; the Sinews, Tendons, and Muscles, are apt to be stiff and contracted. He is molested with Vagrant, Ambulative, Distending, Creeping, Vellicating, or Lacerating Pains of several parts of the Body; bruising Offisragous (*ὀσσεῖν*) pains in the mid-way of a Limb between the Joynts, torturing most in the Night; Red, Yellow, Purple, or Blackish spots, especially about the Knees, which sometimes being concomitated with a Tumor, and extending thence downwards as far as the Foot, and meeting altogether in one tumefied Splotch render the Leg to ones view, as it were all over Leprous; a frequent recurring Melancholy passion, Hiccoch, choaking Coughs, and copious Salivations, violent Palpitations of the Heart, deep Swoundings, strenuous Vomitings, tearing Iliack pains, which a famous Author names a *Dysenteria Incrumenta*, but how properly, let others judge. The Pulse variable, inæqual in motion and strength, most times low and thick, and sometimes vermicular, though at other times strong and violent, that is Thumping.

Thumping. The Urin is inconstant, oft turbid and whitish, sometimes thick and reddish, seldom thin and pale; deep Red, or purple Tumor and Pustles, scattering over the Surface, Redness of Face, Tumors and Imposthumes of all kinds, according to the Temperament of the Grieved. The foresaid Splotches oft do peel off in Scales of several colours and figures, or exchange into *Erysipelas*'s, these and likewise Botches do pass into Ulcers, some of which are superficial, profound, simple, inflamed, callous, dry, sanious, purulent, &c. In some few the Veins under the Tongue, and about the inside of the lower Lips are varicous; some also they are debilitated by great Sweats, which they are exposed to. In an *Inveterate Scorvey*, they are oft loose and subject to fall into violent Fluxes of the Belly, or *Diarrhæa*'s, and *Lienteries*, which if continuing, pass into a *Terminatory Distemper*. The tormenting pain in the Back, called *Lumbago*, and resembling the pain that's occasioned by the Stone of the Kidneys, is very brisk in this degree, as also spurious *Pleuritick* pains.

§ 5. The Signatures and Symptoms of a *Terminative Scorvey* (which is the extream degree, whereinto the foregoing passeth either *per metástasim*, or *ἐκρυσίν*, are, 1. A Scorbutic Phagedænic, cancerous or gangrænous Ulcers, and *Caries* or Rottenness of the Bones. 2. A Scorbutic Fistul, which may happen to several parts. 3. A Scorbutic Dropsie, which commonly proves an *Ascites*, though I have also remarked the *Scorvey* hath made its Exit, through an *Anasarca*, and *Tympanis*. 4. A Scorbutic *Atrophy* and *Marasmus*. 5. A continual very fluent and drivelling Salivation, which one in *Throgmorton-street* hath laboured under several years, and will

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will certainly conduct him to his Grave. 6. Scorbutic Convulsions, and *Epilepsies*. 7. Frequent *Syncopes*. 8. Scorbutic Palsie, and Tremors. 9. Scorbutic *Apoplexie*. 10. Scorbutic Quartan, Tertian, Erratic, Heftick, and continual Malignant Fevers. 11. Scorbutic *Orthopnea*, and Periodical Coughs, and *Asthma's*. 12. Scorbutics *Phthisis*, or Pulmonic Ulcerous Consumption. 13. A continual Flux of the Belly, as a *Dysentery*, or *Lientery*.

§ 6. The Signs of an *Hepatic Scorvey*, are 1. Deep, Red, or Yellowish prurient sanguinolent Gums. 2. Red, Yellowish, or Cineritious spots and splotches about several parts of the Body, especially about the Breast, Neck, and Face, also Pustles and Bumps of the like tincture in the same places, that prove somewhat Incommodious by a Puriginous itching quality, also Erysipela's, Shingles, and Ringworms; some of those spots and splotches of an Ash and Citrin colour I have observed to be indued with a faculty so corroding, that their seat hath been deep in the skin, much below the surface. 3. The Complexion of the whole habit of Body, tending to a cineritious or subcitrine desecration, and in some to a verdure. 4. A stitch or pricking, and in many a weighty depressing pain in the right side, under the short Ribs, particularly upon a deep caprisant Respiration. 5. A soreness, pain and oppression in the right *Hypochondre*, when lying on the left side. 6. Difficulty of Respiration, the Urin and Pulse uncertain, nidorulent Belchings, besides several other signs common to a *Liminary*, and *Recent Scorvey*.



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§ 7. A *Stomachick Scorvey* is discerned, 1. By a pale Tallow habit of Body, white spots like *Cacatrix's*, much lighter than the skin, pale Pustles and Oedematous Tubercles, chiefly about the Stomach, Breast, Neck and Groin. 2. Oedematous Legs. 3. Laxe fungous pale ichorous Gums. 4. Fluent spitting. 5. Inflation of the stomach, heavy Digestion, sour Belchings, and discharging of Wind both ways. 6. Distension of the Belly; whereunto add some of the common signs.

§ 8. The marks of a *Splenetic Scorvey* are, 1. Livid luxuriant Gums, that are apt to be Fissured, Ulcered, grow putrid and stink, and at length through a Phagedanic sanies are apt to be corroded away. 2. Blew livid spots and splotches, which by Deterioration turn black, and oft-times Ulcerate, and commonly haunt the left side of the body more than the right. 3. Sour Belchings, Winds Murmuring and Fluctuating about the Guts between the Hypochonders, Stitches, Pricking, or Gravitating pains in the left side under the spurious Ribs, Melancholy passions, Palpirations, sudden Faintnesses, Vertigos, Inflations and pains of the stomach, which sometimes reach as far as the Back, in manner, imitating those of the stone in the Kidneys, also Vomiting, which in some is so continuous and permanent, that they scarce ever Eat or Drink without returning some part of it immediately, or after a short interval; and notwithstanding are obliged to Eat and Drink often, to suppress the gnawing pain of their stomach, which is occasioned by a putrid *Acid Serum*, vellicating the Tunics of the stomach, lying on the left side proves easiest to them, a livid blearing up of the under Eye-lids; a Hemorrhage of the left Nostril, and many other Characters expressed in the general *Semeiotic*. § 9.

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§ 9. An *Acid Scorvey* not differing from a *Stomachic*, a *Liminary*, and *Recent Scorvey*; a *Lixivial Scorvey* being oft comprehended under an *Hepatic*, and a *Saponary* under an *Inveterate* and *Terminal* *Scorvey* (which Identifications are only to be understood $\chi\tau\iota$ $\pi\omega\lambda\upsilon$) are easily known by those Notes I have already præmised, whereunto may be added for confirmation, the most certain sign desumed à *Juvantibus* and *Nocentibus*, viz. an *Acid Scorvey* yields to Alcalious Remedies, a *Lixivial* to a *Scorbutic Acid*, a *Saponary* to a mixt Remedy. The Mouth, Leg, and Joynt-*Scorvey*, needs no further Illustration for discovery, than what I have set down in their particular Chapters.

§ 10. A *Latent Scorvey* requires Experience and Industry in the Physician, who must take his Dimensions of Conjecture, 1. From the Air wherein the Patient Liveth. 2. Diæt. 3. From such symptoms, which cannot so Directly or Relatively be applied to any particular Disease besides this, as a Recurrent Lassitude, and sloath of Moving, dulness of the senses, difficulty of breath, pesanture of Body, inflation of the stomach, heaviness and dulness after Meat, winds about the Guts, Coughs and Catarrhs frequently returning, besides several other Neutral symptoms, which do neither determine a man absolutely Well or Ill. Lastly, Observe that where two such Non-naturals, as a *Salin Air* and *Diet*, have so absolute an Influence on Bodies, scarce any Disease can seize on a man, which doth not partake of a *Scorbutic Tincture*, neither can it be well cured, without abstracting a Coindication from the *Scorvey*.

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§ 11. A *Dutch Scorvey* in symptoms is very different from the *English*; they using generally a Diet more Excrementitious than ours (as gross thick Beer, Roots, Cabbage, Salats, Milk, Roak-Flesh, Pickle-Herring, and other Fish) are more exposed to all the supposed *Pathognomonics* and *Syndrome* of a *Mouth* and *Leg-Scorvey*, than we, who feed commonly on meats of more Nutriture and less Excrementitious, and therefore are not so much exposed to that general Catalogue of *Scorbutic Symptoms*, but most commonly to those that are Latent, (and Recited in the preceding Paragraphs) and some others more evident, as Spots, Blotches, Pustles, Cutambulous Pains, Gripping of the Guts, Vomiting and Gnawing Pains of the stomach, Hypochondriac Winds and Vapors, Catarrhs, Coughs, also to those of the *Joint-Scorvey*.

CHAP. XVII.

Of the Causes of a Terminatory Scorvey.

§ 1. **T**HIS Chapter I have reserved for the *Ætiology* of a *Terminatory Scorvey*, in whose train the *Dropsie* being placed in the Front, shall Commence my Discourse on that. The ill success that attends the vulgar Cure of an *Ascites*, or *Water-Dropsie*, by hot drying and lixivial Medicines, as *Elycampane*, *Orris Roots*, *Cyperus*, *Calamus Aromaticus*, *Juniper*, *Salt of Worm-wood*, *Centaury*, and a Hundred more, is a plain Convictive, that the Cause is most erroneously assumed, to be a Refrigeration.

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geration of the Liver, and its Obstruction through Phlegmatic Humors. But on the other hand, when we shall take into consideration, that a *Scorbutic Dropsie* is easily, and certainly cured, if attempted in time by mixt remedies, (whereof *Spirit of Tartar*, of *Salt marine*, single or composite, and such like *Acids*, are the *Basis*) besides the Symptoms attendant signifying a Lixivial Original, is to me a clear Demonstration, that it proceeds from a Calcination of Choler in the Liver, which thence resulting into an *Alcalious Salt*, dissolves *per Deliquium*, and so becomes qualified to penetrate into the most intime pores of its *Parenchyma*, where it subverts its Temperament, and through its Absorbitive Exhausting faculty parches its substance, and indues it with a *Salin* dissolving Quality, whereby the whole Mass of *Chymus* is daily dissolved into a *Serum*. The universal current of Blood, deriving hence an absorbing and exicating faculty doth about the Stomachic Vessels so exsuge the Mouth of the Stomach, that Hydropics are continually obliged to moisten it, by Ingurgitating large measures of Drink, whence the *Latex feri* doth so immensurably accresce, that through its intumescence generally some Vessel or other about the *Abdomen*, and particularly about the *Mesentery*, doth burst, or at sometimes through the Acrimonious quality of the *Salin Serum* the said Vessel is corroded through, among Physicians termed, a *Διδόροσις*; for it's not possible, so great a quantity of Water, as is sometimes collected in the capacity of the *Abdomen*, should sweat through the pores (*per διαπιδόρον*.) But this is certain, that oft in a Commencing *Dropsie*, or one that's *Recent*, and of no large Circumscription, the *Serum* may exit through the Osculations of the Vessels (*per διασφύρασις*) and it is this kind of *Dropsie* is capable
of.

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of an expedite Cure, whereas the other that depends on a *διαβροσις*, is for the greater part incurable; for suppose, that the Extravasate Serum is all, or in a great measure drawn off by Hydragogous Purgatives, still the consolidation of the corroded Vessels is not only difficult of its own nature, but in a manner impossible, because of the daily præterfluxe and appulse of the corrosive Salin Serum, to the discontinued Orifices of the said Vessels; add hereunto the ineptitude of the salin constitution of the Liver and corroding Alcalious Blood to be sweetned, and reduced to their pristin Temperament. By the way, let me observe the Error of Hofman in his Institutes, attributing the causality of a Dropsie, to a Diminuted or Abolisht faculty of the Kidneys, not attracting the Serum, which is manifest, doth happen *per accidens*; because the Serum having taken another Channel, is deviated from its usual appulse to the Emulgents. But since I find my self for the præsent imbarqued on this subject, the affinity of the matter perswades me to expatiate into some other sorts of Dropsies, that are not Scorbutic, namely such, as sometimes do happen to Women after their lying In, also to some upon a liberal draught of cold Water, and to others upon the continuance of a Skir of the Spleen or Liver, or upon a tedious harassing of a Tertian or Quartan. In the first case there being a vast Coacervation of Humors in the Hypogastric Vessels, by reason of the retention of the Menstrua, during the whole time of Child-bearing, which upon the pains of Labour attracting a greater Conflux thither, and the great heat of the adjacent parts rarefying the said Humours, occasion some of the Lymphatic Vessels to burst, whereunto being concomitant a copious Hemorrhage of the Matrix, causeth a vast expence of Spirits,

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Spirits, whereby the Bowels do all suffer a subversion of their temperature, that afterwards proves an occasion of engendring crude aqueous Humours; these upon their circulating reverſions diſtilling out of the foreſaid burſted Veſſel into the capacity of the *Abdomen*, produce a *Droſſie*. The like may happen upon a draught of cold Water, violently repelling the Humours to the Veſſels of the *Abdomen*, which partly through the violence of the Impulſe, and partly through their being crouded together, occasion a Rupture of ſome of the Lymphæducts. Here I muſt animadvert further, how ridiculous a conceit it is of moſt Phyſicians, importing the ſaid *Droſſie* to be cauſed by the ſudden extinction of the innate or influent heat of the Liver, which afterwards doth engender Aqueous Blood; as if that entrail ſhould be left ſo naked, or be ſo meanly fortified by Nature, as not to be capable, to reſiſt the quality of cold Water at ſo great a diſtance; for certainly the cold is much broke and obtuſed by the Stomach, and other parts, before it can arrive to the Liver; or as if that cold quality, which is impreſſed upon the Liver, could not be eaſily remedied by hot Medicine: But what do I inſiſt ſo long upon theſe Trifles, ſince the whole Body of Phyſick is filled with them? How a *Droſſie* is engendred upon a *Skir*, *Tertian*, or *Quartan*, you may be informed from the Præmiſſes, wherefore I will return to Confirm the cauſe of a *Scorbutic Droſſie* to be an Alcaliſed blood, by the Calcination or Reverberation of the *Bilis*, which the Liver is alwayes furniſht with throughout all its parts, to ſubtiliate and depurate the reſluent Blood, which being performed, the ſuperfluous part of the ſaid *Bilis* is abandoned to the *Cyſtis*. The Symptoms concomitant and ſupervenient do ſtrongly Corroborate that Sentiment.

1. The

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1. The insatiable Drought, the Atrophy of the Superior parts, the Lixivial ruddy Urin, torrid Tawny Complexion of Body, cancerous depascent Ulcers of the Legs, the salt Lixivial taste of the Serum, when Tapt out *per paracentesin*; who but an insipid *Medicaster* can derive them from any other than an *Alkali*, or a reverberated *Bilis*?

§ 2. A *Convulsion*, *Palsie*, and *Apoplexy*, are the next particulars, that highly merit a serious deliberation, the more, because they ordinarily prove so dangerous and terminative. In the concept of their part primarily affected, seat, and internal Cause, I have for several years with the Generality of my profession, attributing too much to the Dictates of Antiquity, sloathfully erred, until that by a stricter scrutiny and observation in practice I had detected their true Fountain and Original, which I now propose to you. That the Heart is the chief seat, and part primarily and principally affected of the forementioned Diseases, appears 1. By the pulsation of the Arteries, which before any *Convulsion*, *Palsie*, or *Apoplexy* doth seize on the patient, doth very much vary from its Natural, in respect of Fortitude, Order, Frequency, Equality of Motion, and many other specifications; which certainly express the heart primarily and principally affected; confer further with the 6. *Arg.* 2. By the Respiration, whose variation from its ordinary Function in several respects, preceding those recited affections, also signify the same to be the part principally affected. 3. From the consideration of the Office and Function of the Heart, which, besides the Vivification and Irradiation of the whole, is, to be the sole and *Primum mobile* of Motion of the Animal Spirits; for through the Pulsation of the Arteries.

about.

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about the Brain, and more especially about the *Plexus Choroides*, it causes Efforts, *Impetus*, and impulsive motions on the Animal Spirits; so that it is from those Impulses these receive their energy and vigor, and therefore consequently the Heart being affected, those impulses must also be depraved or diminished.

4. If at any time those Symptoms are abated or removed, it is by means of Cordials, which here for distinction, and the scope they are intended for (though Improperly) may be termed Cephalic-Cordials, *Cephalico-Cardiaca*, as *Spirit of Castor*, *Amber*, *Rosemary*, *Poyny*, &c. These undoubtedly are nothing more than Cordials, and rectifying the Blood, comforting the Vital Balam and Spirits of the Heart, and reducing them to Ordination, aquality of Motion and Vigour. From ordinary Cordials they differ in this only, that consisting of a more durable and compact *Sulphur* and Spirits, they continue their Operation longer, In comforting the Heart, and oppugning the *Salts* of the Blood, by reason of the Compactness and Crassitude of their substance, whereas those that are vulgarly termed Cordials, and intended only to comfort the Spirits by assimilation, consist of a lighter, fusive, and exhalable substance; as *Spirit of Wine*, *Treacle-water*, *Aqua mirabilis*, &c. 5. Observing, that in some Cases the foresaid Symptoms receive a considerable abatement and benefit from Phlebotomy, it is easily demonstrable, that this is performed, by detra-cting some part of the burden, that oppressed the Heart, and its pulsifque and impulsive motions.

6. Galen, lib. 2. de caus. puls. c. 12. seems to intimate what is here asserted, in these words: *Pulsus convulsivus est, in quo utrumque terminum arteria tenditur, quem convulsio sequi solet.* So that a convulsive pulse (which signifieth the heart to be affected

sted primarily) doth præcede a Convulsion, which following must be deemed a Symptom of the former. Touching the manner and difference of those three symptoms, I conceive, that a *Convulsion* is occasioned by Irritation, a *Palsie* by Relaxation and Obtusion, and an *Apoplexy* by Dissolution. But to illustrate it further; When the Arterial Blood consisting of an acrimonious pungitive Salt, and appealing to the lower part of the Brain (which is the most sensible, and near the *Principium Nervorum*) is agitated smartly by the vibration of the Arteries or hard and violent pulsations (for in all Convulsions *Pulsus sunt duri & tensi*) those subtiler particles of the Blood are adacted violently into the pores of the tender parts of the brain, which being thereby extremely discomposed, do violently impel the said pungitive particles into the Nerves (or in some cases only make a smart impression of their *Idea* on the Animal Spirits contained in the Nerves) and being protruded to the Tendons of the Muscles, through their stimulating quality incite them to contract and distend themselves, to be freed or discharged of those aculeous particles. Moreover, take notice, that the vulgar Explicatory of Convulsions, wherein the Nerves are declared to be primarily and chiefly convelled, which being continued to the Muscles, do likewise occasion their being convelled, is greatly Erroneous; for only the Tendons are subject to Convulsions, they being the chief instrument of the *Motus Spontaneus*, and only subject to a *Motus Depravatus*, and *Violentus*, whereas the Nerves are not appointed to move or to be moved, but to convey the Spirits. Secondly, when a Nerve is punctured, or cut asunder (as hath oft happened by the Indexerity of Surgeons in Phlebotomy wounding the Nerve in the Arm instead of the Vein)

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Vein) it's only apt to be surprized with a very great pain; but never known to be convell'd. Wherefore I would not have my Reader judge the Dictates of the Ancients to be infallible, since besides what is fore-mentioned, it's manifest in many of their positions, which hitherto by this credulous Age are received for Truths: I shall only give you this instance for proof; the Causes of a *Cephalalgia*, or Head-Ache, is by them asserted to be Acrimonious, or distending Humors and Winds, corroding or distending the Membranes or *Meninges* of the Brain. Nothing is more false than this, or savours more of Ignorance in Anatomy; for neither of the *Meninges* are in the least sensible, as may be observed by the Probe, wherewith touching the *Dura Meninx*, though roughly, (when lying bare upon the use of the Trepan) is not in the least perceived by the Patient. Secondly, whence should the sense be derived, there being not any Nerve, or so much as a Nervous Fibre transmitted to it from the Brain. In *Summa*, in the Brain, Stomach and Liver, though they are daily Dissected and Examined by Physicians in their expired Patients, many particulars are passed by, that have not been discovered until very lately, which is to be attributed to their Negligence and Unskilfulness; for indeed now adayes, if a Physician hath but once or twice dissected a Sheeps-head, or a Calves-pluck, he thinks himself sufficiently qualified to Challenge the Title of an expert Anatomist; thus we see, that an expert Anatomist of this kind, observing that one of the jaw Muscles of a Sheeps-head had two Bellies (whence it's also called *Digastricus*) immediately concluded all Muscles to be *Biventres*; an able Head-piece for an Anatomist.

A *Palsie* is an imperfect *Apoplexy*, or a *Levis Apoplexia*,

plexia, and differ only *gradu*, *secundum magis & minus*, and therefore do easily pass into one another, according to the Tenor of the *Doct. of Hipp.*

Galen. 3. de loc. affect. 10. further tells you, That where all the Nerves have at once lost their sense and motion, that affection is called an *Apoplexy*, but that which only happens to the right or left side is a *Palsie*.

The causes in general are twofold, 1. A Material And, 2. A Formal Cause. The former is a gross *Saponary Blood*, which through its thickness is rendered incapable of being so subtilized by the Brain, as to distil into the Nerves, and that part that is insinuated into the Nerves, being too obtruse and gross, to receive the Impulsive motions and *Impetus*, prove unable to actuate or distend the Nerves and Fibres, and therefore move the members very weakly, or not at all, whence I term it a Relaxation in opposition to the said distention. The Formal Cause is the pulsifque faculty of the Heart, which is rendered soft, slow, and dull, and therefore Incapable to exercise its Impulsive motions. Moreover observe, that though the Blood is Salino-Alcalious, it is not Acrimonious, because it is obtrused by a mixture of gross Unctuous and Bituminous *Sulphur*, that obtuses its Acrimony; for otherwise were it acrimonious, and purely Lixivial, it would prove Vellicating and Dolorous, and consequently Convulsive. The *Atiology* of the other Terminatives may be easily deduced from the interspersed Discourses.

CHAP. XVIII.

Chronology of the Scorvey.

1. **T**O whatever various Sentiments touching the first Rise and Appearance of this Distemper; every particular Physicians Fancy may lead him, I am certain by all the Indagation I could make among Physical Records, the name of *Scorvey* (what touching Identified Symptoms hath been discussed among the Ancients, let that rest) is not mentioned in any Author prior to *Euritiu Cordus*, in his *Botanology*, and *Olaus Magnus*, who in his *Hist. Gent. Sept.* relates, There was a certain Campaign Disease, which did afflict those that were besieged and closed in, and seemed to grow from eating of Salt Victuals, was increased through a cold Exhalation out of the Walls, and was called the *Scorbutch*. But *Georg. Fabric. Lib. 2. Annot.* in his History of the year 1486. saith, *This year was reigning a new and unheard of Disease in these Countries* (which were *Silesia*, *Bobemia*, and the parts adjacent) *which the Seamen of Saxony, called Dan Scorbutch*. Whence I collect, this Disease had some few years before been Extant in *Saxony*, and Denmark, possibly in 1483. or 84. Moreover two things are observable, 1. That this Scorbutic Evil presently after its first Origination, was more fierce, and Malignant, than the ensuing Twenty or Thirty years; for the said *Fabricius* in the account he gives of it, tells us, this Distemper tended immediately to Ulcers; which if not timely remedied, became Gangrenous, and Mortal. The second is, That

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there

there was an interval of some years, before it spread-
ed into Countries that were less Northern; for *Bal-*
duinus Ronsseus, who to me appears the first, that
wrote on the *Scorvey*, è *Profisso* in his *Treatise de*
Magnis Hippocratis lienibus, plinique Stomacace, et
Sceletyrbe, seu vulgo dicto Scorbuto, printed at *An-*
werp, in the year 1564. doth expresse, this Disease
was but newly arrived among them, and was so
strange to them, that many scarce knew, what to
make of it. *Guil. Lemnius* a *Zelander*, wrote a *Trea-*
tise on the same Subject a little while after. *Forstius*
in his *Observ. Lib. 22. Observ. 20.* writes, that the
Scorvey, was not only formerly unknown, but many
that were troubled with it, Died of it; likewise
that one *Dorpius*, a Priest of *Lovain*, died of the
said Disease many years since, the *Lovain* *Physi-*
cians being extremely surprized at it, who had not
yet determined any thing concerning it, being an
Evil that was yet new and unknown, and so was its
Name, Essence, and much more the manner of *Cu-*
ring it.

Scorbutic Authors tell us, that *Westphalia* was pe-
ster'd with it next after *Denmark* and *Saxony*, in the
year 1500. the next *Friezland*, then *Flanders*, and
Brabant, in 1556. where it was occasioned by eat-
ing of *Rye*, that was brought from *Prussia*, there
being at that time a great scarcity of *Wheat*; af-
terwards *Holland* and *Zeland*; in a manner, as if
this Distemper had by Contagion crept from Coun-
try to Country. Many years it remained on that
Coast, before we were sensible of it here in *England*;
for there are many Physicians yet living, who in the
former part of their Practice, had not so much as
heard of the Name of this Disease, whereas within
the last 20 or 30 years past, it's grown very familiar
among us.

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The next Author that wrote on the *Scorvey* after *Ronsæus*, was *Echti*us, whose *Epitome* of the *Scorvey* was printed a little after the said *Ronsæus*, next to him was *Nierus de Scorb.* printed in 1567. next *Salomon Albertus*, whose *History* of the *Scorvey*, with the addition of a new Symptom then appearing, which was a contraction of the Cheeks, was published in 1594. *Hieron. Reusnerus*, his *Exercit.* on the *Scorvey*, in 1600. *Severinus Engalenus* his Book of the *Scorvey*, in 1604. *Langius* his two Epistles on the *Scorvey*, in 1607, or 8. *Horslius* on the same Disease, in 1609. *Stubendorf* upon *Engalen*, in 1614. *Dryer*, *Brunner*, *Brucæus*, *Albinus*, *Smid*, *Sennert*, all Authors on the *Scorvey*, in 1622, 24, and 27. Besides these several others have *Obiter* and *Curso-* rily touched on this Disease, as *Baubinus*, *Dodonæus*, *Agricola*, *Carrichter*, *Dryander*, *Mithobius*, *Forestus*, *Ralsink*, *Barbet*, and Twenty more.

CHAP. XIX.

Of the Præfages of the several Degrees and Kinds of Scorvey.

§ 1. **T**He fore-knowledge of the Danger, various Mutations, Facility, or Difficulty of Cure of a Distemper, is so necessary, that a Physician can by no means be thought accomplish'd, that is not well instructed in that particular, for which reason I shall Congest what Observations others and my self have made upon it, and recommend them to your reading.

A Preliminary *Scorvey*, if not well distinguish'd,
G 2 and

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and rightly Cured, may either be Transitory into a dangerous Malignant continual Fever, or a *Liminary Scorvey*, either of which may be prevented by a very facil Cure.

§ 2. A *Recent Scorvey* being neglected for six or eight Months, either by not making use of any means at all, or at least such as are ineffectual, passeth into an *Inveterate Scorvey*, that generally proves very stubborn to Remedies; being in some cured by a long continued Course, in others only palliable, so that it's frequently returnable, either every Spring and Fall, or every Moon; in others it's absolutely incurable.

§ 3. An *Hereditary, Connate, or Syntrophus Scorvey*, is Mitigable, but not intirely Curable.

§ 4. A *Contagious Scorvey* being only *Liminary, or Recent*, yields easier to Remedies, than one that is *Non-naturally adventitious*.

§ 5. A Distemper contracted by a Salin Air is not so obstinate, as one engendred by Diet, provided the Patient takes the advantage of changing the Air.

§ 6. A *Splenitique Scorvey* is worse than an *Hepatic*, and that also is worse than a *Stomachic*.

§ 7. An *Acid Scorvey* is more corrigible than *Lixivial*, and that more than a *Saponary*, which frequently proves Incurable. The measures of a *Mouth, Leg, and Joynt-Scorvey* in general, are very consonant to the last preceding distinction.

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§ 8. An *Asthmatic*, or *Syncopal Scorvey*, is attended with danger, and oft with a sudden death; a *Rheumatic* is tedious, and oft survened by a Fever; a *Torminous* is ordinarily very deplorable, and an *Emetic* distemper is of æqual danger with the former and oft proves fatal. *Diarrheous* and *Lienteric Scorveys* are very Chronical, and frequently Mortal. A *Flatuous Hypochondriac*, an *Ulcerous*, and a *Dolorous Scorvey* are very difficultly conquered, or if at any time cured, are easily returnable.

§ 9. A *Latent Scorvey* is easily or difficultly cured, according to the length of time, since it hath invaded the Body, and according to the quality of the Symptoms, and parts affected. In general, a *Latent Distemper* doth more easily admit of Cure in the beginning, than a manifest one; but in the Augment or State is far more difficult than the other, because there is no discharge of Scorbutic matter towards the Circumference, as in the other, and consequently the Spirits must be more oppressed.

§ 10. An *English Scorvey* is universally milder, and less refractory than a *Dutch Scorvey*.

§ 11. A *Mild Scorvey* may continue or be protracted to ten, twenty, or thirty years; a *Malignant* one doth sometimes terminate Life in two, six, or twelve Months, in some sooner, in others later; some arrive to their periods gradually, that is by a gradual decay of Spirits, and contabescency of body; others die suddenly, and possibly when they least think of it.

§ 12. *Spots and Blotches*, the nearer they come to a black colour, the worse they are, and if they
G. 3. burst

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burst out into Ulcers, signifie a greater Malignity, and difficulty of cure. It is observable, that in some before they die, those *Blotches* do disappear by reverting into the Body, but soon after death appear again.

§ 13. *Ulcers* of the Legs are not easily cured, but on the contrary if irritated, like Cancers, induce a fiercer Nature, which frequently inclines to a Gangrene, and Mortification.

§ 14. *Spots and Blotches* of an Ash colour, especially of Corroding and Itching, in some are never cured. Cutaneous Tumors if apt to retrocede and burst out again præage a *Palsie*. A *Palsie* though cured, leaveth a contraction of some of the Tendons, or a subjection to Convulsions behind it.

§ 15. In a *Mouth-Scorvey*, if the Palat and Throat turn Livid, that is Leadish, or Blackish, prognosticates Death to be at the door.

§ 16. A weak *Pulse*, and debility of Body in this Distemper are not alwayes dangerous, because that former may be occasioned by vapors and steems, and the latter by putrid *Acid Blood*. Neither are Convulsive Motions, that survene Scorbutic Fevers, of an æqual danger with those, that accompany other Distempers; for these soon cease, and their cause being Acrimonious steems, are in a short time dissipated.

§ 17. A *Scorvey* succeeding a *Quartan Ague*, or a continual Malignant Fever, proves for the greater part very Malignant, Obstinate, and in some incurable.

§ 18.

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§ 18. Children and Boys are most incident to the Kings-Evil, and Joynt-Evil, young Men to the vagrant Gout, and old Men to the fixt nodous Gout. Boys and Girls are not so much exposed to the *Scorvey* as men or women; because the Constitution of the former is not so Salin, as the latter, and therefore when at any time they are surprized with it, are easier Curable. Old men if Scurburic, carry their Distemper commonly along with them to their grave. A *Mouth-Scorvey* is more familiar among the younger sort, and a *Leg Scorvey* among those that are past thirty.

§ 19. A Body that hath been once cured of the *Scorvey*, if attacked the second, or third time, shall find the Cure to advance much more slowly than before.

Few Distempers of this kind are remedied without an exact Diet, though never so slight, and if they be any thing *Inveterate*, or *Terminatory*, the best Medicines without a Diet avail nothing.

§ 20. *Terminative Scorveys*, though curable, require a long continued strict course of Medicines; some are absolutely incurable.

These Prognostics are to be understood absolutely considered, without the help of Remedies, which being prescribed according to the Rules of Art, dexterously prepared, and methodically applied, are sufficiently impowred to frustrate the most of predictions, alwayes that excepted, which implieth a Period determined by the Creator, whereunto this Trite Versicle hath its reference:

Contra vim mortis, non est Medicamen in-bortis.

C H A P. XX.

*Of Preservatives against the
Scorvey.*

§ 1. **I**T is not in a bare Speculation of the Nature, Causes, and Signs of Diseases, the Art of Medicines doth acquiesce, but like other practical Sciences and Arts, designs its Theorems for Practice; wherefore since I have sufficiently laid down whatever appertaineth to the Theory of Scorbutic Infirmities, it's requisite I should now declare the Practice, which comprehends the *Prophylactic* and *Therapeutic*. The former being otherwise called the *Conservative*, in this case directs the means whereby to preserve a Healthy Body from the *Scorvey*, which consist chiefly in Rules and Precepts of making use of the six *Non-naturals*.

§ 1. Make choice of a thin serene perslated In-Land Air, and therefore shun the Sea-costs, Bog, Waterish, Stinking, and Close places.

§ 2. Let your Diet be chiefly upon fresh Meats, that are Nutritive, of easie digesture, and not very Excrementitious; so that you must avoid all Victuals that are stale, stinking, salt, gross, obstructive, excrementitious, and of hard digestion. Within the Verge of this Rule are meats, that have been kept too long, until they had acquired a *Fresh Haugou*; likewise Pork, Brawn, and all sorts of Hog-meat, as Black-puddens, Sausiges, Beef, Ducks, Geese, Tripe, Flower Puddens; most sorts of fried
Victuals

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Victuals, as Pancakes, Stakes, Eggs fried, Collops of Bacon, &c. most sorts of Fish, Salats, all souced and pickled meats, &c. which are all Scorbutic. Let your Drink be clear, well fermented, fresh, sweet, and temperate; not stale, or sour, ill tasted, thick and muddy, heating, or cooling. Thus much for the quality; for quantity you must be moderate, in respect both of Eating and Drinking. Let your times of Meals be seasonable, seven in the morning, twelve at Noon, and seven at Night in the Summer, and in the Winter one Hour later. Your Breakfast and Supper ought to be light, and moderate, but your Dinner somewhat more solid and plentiful. Particularly avoid Coffee, new raw Cider, Brandy, and Tobacco.

§ 3. Sleep moderately, use Exercise, but not violently, keep your body in order; that is between Loose and Bound; shift your Linnen once or twice a Week, to prevent the stoppage of your Pores by the Condensation of Sweat, and sooty steams, that stick to your Shirt. What concerns the passions of the mind, I will only recommend to you the Old precept, *Bene age, & letare*, Do well and be cheerful; and so here let us end this Chapter.

C H A P. X X I.

Of the Therapeutic in the Scorvey.

THE Therapeutic or Curative performs its part, by directing methodically Remedies, contained in the Pharmaceutic and Chirurgic.

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§ 1. The methodical Directions do flow from the indications, which are taken from two general Heads, *viz.* 1. From the Strength of the Body. And, 2. From the affections against Nature; from both which likewise Coindications and Counter-indications are desumed. Among the affections against Nature, the Causes of a Disease, and in our Case of the *Scorvey* are the principal *Indicants*, next are the urgent Symptoms, and lastly the Disease itself.

§ 2. The *Salin Air* among the *Procatartics* being the Ground and Original efficient, indicates in change into a better, which is such, as hath been described in the first Rule of the preceding Chapter; whose second Canon doth likewise contain Directions, that answers the indication, desumed from a Scorbutic Diæt, another grand Efficient; these two together with the rest of the Non-naturals being provided against in the same Chapter, we are to apply our selves to those indications, which the internal antecedent Causes do point at, *viz.* 1. A *salin putrid*, or gross fuliginous coagulated acid Blood, indicates Remedies, virtuaded to dulcify, attenuate, depurate the Humours of those sooty particles, and volatilize the salin parts, that are too much fixed. 2. A *salin lixivial thick chyme* requires Remedies, that by obtusing the fiery alcalious Salts, may reduce it to an unctuous sweetness, or *Pingue-dulce*, and through their inciding property render it thin and fluid. 3. A *saponary constitution of the Blood* doth assign Remedies, that obtain a power not only of allaying the alcalious qualities of the Salts, but also of depurating and volatilizing the incrassated sulphurous particles, that are fixt and embodied with the Alcalious Salts.

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§ 3. In respect of their too much increased quantity, they seem to direct the Physician to Diminution or Substraction, which is accomplished by *Pharmaceutical* and *chirurgical* means. The latter are,

1. *Phlebotomy*, for disburdening and depleting some part of the whole, which in *Hepatic* and *Stomachic* *Scorveys* is to be performed in the right arm; in a *Splenetic* in the Left, and in a *Pleuritic* *Scorvey* in the Arm of the same side. After a competent interval, for derivation from, and easing of the part affected, a particular subtraction of Blood out of the *Hæmorrhoidæ veins* by the application of Leeches is of great use in an *Hepatic* or *Splenetic* *Scorvey*. In Women, especially if there be either a total or partial suppression of the *Menstrua*, the *Saphena* ought to be opened. The measure of what quantity of Blood is requisite to be subducted, is to be taken from the degree of *Plethory*, Age, Sex, and other common Circumstances.

2. *Fontanels* or *Issues*, than which no means, whether *chirurgical*, or *Pharmaceutical*, seem more advantageous and necessary, both for a præservative, and curative. Touching the place, where an *Issue* is most proper to be made; in a *Splenetic* *Scorvey* is in the inside of the Leg above the Knee, an inch or two higher than the Gartering place; but here the *Surgeon* is to be very cautious, that in making the incision, he doth not wound some of the Vessels, that pass just underneath, which is frequently done if made too deep, and sometimes not without danger. In an *Hepatic* *Scorvey* the right Leg is most proper, in a *Stomachic* either, it matters not. The *Mouth* *Scorvey* indicates an *Issue* in the Left Arm, or in some cases in the Neck, or Right Arm, or in some very few on the Head, on the place of meeting of the *Sagittal* and *Coronary* Suturs. In the

Lig.

Leg-Scorvey an issue above the Knee is more rational. In the *Joynt-Scorvey* more Fontanels than one are necessary, to be made in the Arm or Leg, and sometimes in the Neck also, according to the circumstances of the Disease.

Children that are born of Scorbutic Parents, receive a great benefit from Issues, that are made in the Neck or Arm; but for prevention, that the Scorbutic stain wherewith some Child bearing Women are contaminated, shall be communicated to the Child in the Womb, nothing is of æqual force to an Issue in the Arm. The too much increased quantity of Scorbutic Humours indicating Pharmaceutical evacuations, is to be diminish'd, or abated by Laxatives or Eccoprotics, and Purgatives or Cathartics. The former are usually præmised before Bleeding (where required) and Purgatives.

CHAP. XXII.

Of Antiscorbutic Laxatives

§ 1. *A* *Lets* is the chief Laxative, and indeed the Basis of most Purgative Pills; but in regard that it's offensive to the Stomach and Liver, and that by reason of its bitter Acrimonious Lixivial parts, it's of a nature so Colliquative, and Irritating, that it's apt to force the Blood out of its Vessels, and particularly to excite a *Tenesmus*, and Hemorrhoidal pains, necessarily requires such Correction and Preparation, as may render it not only less hurtful, but also particularly appropriated to the Stomach. The preparation, which I have frequently

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quently experienced, to excel all others, is this following.

Rx. *Aloes Succotr. gros. pul. 3 i.*

Flor. Ros. rub. 3 i. ss.

Spir. Sal. com. gut. xl.

Spir. Vin. non rectif. ad.

Supereminent. lv. digit.

f. digest. in ciner. per hor. xii.

coletur & evapor. ad extr. consist. cui addit Ol.

Garyophyl. vel. Nuc.

Muscat. stillat. gut. xx.

Dof. a gr. xv. ad. lx.



§ 2. The *Francfurt Pills*, otherwise called *Pil. Angelicae*, invented by *Hartman Beyer*, have not only kept up their Reputation for many years, but to this day are accounted of great Vertue in *Germany* and *Holland* against *Scorbutic Distempers*, inso-much, that many thousand Boxes of them are every year dispersed to all Neighbouring, and some remote Countries also, so that they are found to be as stabl a Commodity to the *Francfurter Apothecaries*, as *Treacle* to the *Venetians*, or *Confectio Alkermis* to those of *Monpellier*. The gain that hath been acquired by them, is the occasion their Preparation hath been kept so private, though at present is grown publick enough. The description I had of it at *Francfurt* is various, some preparing them one way, some another, though in the whole it comes much to one. The most received Preparation is that, which consists of an incomplete and complete extract of *Aloes*. In manner following;

The

The Incomplete Extract is.

Rx. *Aloes Succotr.* lb ℥.
Aq. Borrag. lb i. ss.
Diger. per hor. xxiv.
colatura fort. express.
evap. ad consistentiam.

The complete Extract is.

Materie inspissat. affund.
Suc. Card. Ben. ℥ vi. *aliis* ℥ viii.
Digerant rursus. per hor. vi. & *expressio* *evaporet.*
ad spissit. Extract.

§ 3. In Italy the præparation of *Fabritius ab Aquapendente* was, and is still of æqual Fame with the former, and is nothing but *Aloes Rosata*, whereof the said *Fabritius* for many years together was wont to take every day a little before his Supper half a Scruple, for a præventive of Diseases and a prolongative of Life. *Leonard. Donatus* writ an entire Treatise upon the Description, Vertues, and Use of *Aloes Rosata*, concluding the last Chapter with this Expression, That as the *Romans* anciently through Sobriety lived to the Age of Six Hundred Years, so he hoped to live no less by the use of *Aloes Rosata*.

Bontius his *Pil. Tartar.* are also of excellent use for the same purpose, the Description whereof you have in *Scroders Pharmac.*

§ 4. It is among the Records of Experience, that *Aloetic Pills* are a most safe and effectual Præservative from the *Scorvey*, being at convenient times.

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times used once or twice a Week or oftner ; they are likewise a great Præparative, that may be præmised before a Curative method of a *Recent*, and *Irritated Scorvey*. They offer no violence to Nature, which the Vulgar *Mountebanks* Universal, or Scorbutic Pills, Elixirs and pretended purgative Cordials do in so rude a measure, that many have and daily do purchase them with the loss of their Lives. Were I obliged to set down the Names of all those bold adventurous Elixir-purchasers, or Pill-Chapmen, that in one Year only are untimely posted away to their Graves by those Deleterious Medicines, it is not twice the Bulk of this Treatise would contain a space large enough for a Register.

How gently those *Aloetic Pills* cleanse the Stomach, the Guts, and Mesarias of their Drossy-Mucilaginous and Tartarous Dregs, and that without the least perturbation of Humours, alteration of Body, change of Countenance, impair of Strength, or any ill attendance, may be admired. That they gently remove obstructions, excite an Appetite, and render the Body vigorous and prompt to motion, is a most certain Truth.

§ 4. Two particulars are to be observed ; The one is in relation to their Præparation, *viz.* That they be præpared singly, without the admixture of those pretended correctives contained in the Composition of *Hiera Picra*, *Russi*, *Masticin*, and such like ; for all that *Farrago* or Miscellany of *Asarum spic. croc. &c.* in the *Hiera* ; *Myrrhe* and *Saffron* in the *Russi*, doth not only so much increase the mole of a Dose, that instead of two Pills of simple *Aloetics*, you are obliged to swallow down Eight or Nine, but it occasions also a Tumultuation and
Ebullition.

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Ebullition in the Stomach, and all the Vessels, inflames the Body, and sets all the Humours afloat.

The second is in relation to their proper Use and Exhibition, where you are to take notice, that they are only appropriated to an *Acid Scorvey*, being otherwise very præjudicial in a *Lixivial* and *Saponary Scorvey*, also to all hot and dry Temperaments, lean and thin habits of Body, and such as are subject to *Hæmorrhages* of the Nose or *Hæmorrhoids*, or excessive *Menstrua*.

§ 6. The Laxatives proper in a *Lixivial* or *Saponary Scorvey*, are *Polypody*, *Sem. Cartham.* *Epithym.* *Cassia*, *Manna*, *Tamarind.* *Prun. dam.* *Passul.* *Tartar. Rhen. Crud.* *Crem. Tartar.* *Syr. Ros. sol.* Out of these may be composed Decoctions or Bolus's; or instead of them may be substituted Laxative Glysters.

CHAP. XXIII.

Of Scorbutic Purgatives.

§ 1. **C**Hyimical Practisers cannot with greater Truth affirm, that *Antimony* is capable to Cure all Diseases, then in the same sense I may confidently assert, that *Senna* before all others is the most noble, safe, and effectual Vegetable Purgative, whereby most Distempers depending upon a *Cacochymy*, may be perfectly removed, and especially those that are Scorbutic.

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§ 2. *Agaric* and *Michoacan*, are the next Purgatives, that seem to be specifically appropriated to Scorbutic Cacochymies. Besides these, all *Hydrogagal Cathartics* in general are experienced, to contain a peculiar faculty of Evacuating, and purging abounding vitiated *Acid Salts*, and among those *Syr. & Rham. Cath.* is prefer'd for a mild and safe *Mild-Cathartic*. Those of a more rude nature, and consequently more proper for robust Bodies, and inveterate Diseases, are *Elater. Gut. Gamb. Gialap. Ist. Esul. Suc. irridis noster soldanel.*

Gum Cathartics in obstinate Cases are of admirable Vertues, but must be used in their due season; such are *Gum Ammoniac* especially, *Opapanax* and *Sagapenum*.

§ 3. Thus much for the Simples, the Compounds are these following; but before I proceed upon them, let me recommend one rule of Caution to you, that the less Compounded Medicines are, the more certain are their effects, and less subject to disturb the Spirits: For a Medicine that consists of manifold Ingredients, though perchance it may perform the same Operation, will occasion a greater Perturbation, and with so much uncertainty, that you shall not know, to which of the Ingredients the success is to be chiefly ascribed. Moreover, though for Ornament and the Dubiousness of the Dissembler, a Polypharmaceutical prescription may be allowed, yet in Scorbutic Maladies, where the blood upon the least irritation is so apt to be exagitated, and moved into a tumultuous Ebullition or $\sigma\rho\alpha\delta\omicron\mu\omicron$, it's incompatible.

§ 4. Secondly, Be mindful of this Remarque, that Scorbutics, because they are so much exposed

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to an Oppression, and Depauperation of Vital and Animal Spirits, as appears by their low unequal Pulses, the imbecillity of their Joynts, and oppressed Respiration, cannot bear much purging, especially by violent Cathartics, neither is there that Concoction (*πέποισις*) nor Separation (*ἀσάκρισις*) of Humours, which are necessary before Evacuations; wherefore purge seldom, and that only with gentle Medicines, unless the robust Constitution of the Body, or the Radication or Greatness of the Distemper should require it.

§ 5. The forms of Purgative Præscriptions, viz. of an *Apozem*.

Rx. Rad. Polypod. q. Helen. an. ʒ ss. Fol. Agri-
mon. Asplen. an. M l. ss. Sum. Absynth. P. l.
Passul. m. ʒ i. Fol. Sen. or m. ʒ vi. Agar. al-
bis. ʒ i. ss. Tartar. Rhenan. ʒ i. Zing. ʒ ii. ss.
Coq. in Aq. Fon. q. s. in Colat. lb i. dissolv.
Syr. Ros. sol. ʒ i. ss.
M. f. Apoz. pro iii. dos. matut.

§ 6. Of a Powder.

Rx. Crystal. Tartar. ʒ ii.
Flor. Sal. Armon. chal. ʒ ss.
Scammon. Sulphur. gr. vi. vel viii.
M. f. Pul.
Capiend. in juscul. cochl. i. vel ii.

§ 7. Of Pills.

Rx. Fol. Sen. or. ʒ ii.
Nitr. Tartar. ʒ i.
Resin. Scammon. ʒ i.

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Ol. Garyophyl. gut. x.
Syr. è Rham. Cath. q. s.
M. f. Mass. Pil. Dos. 3 i.

Others of great vertue.

R. Aloes præp. nost. vel Rosat. 3 ss.
Tartar. Vitriolat. ʒ i.
Resin. Gialap. gr. iv. vel v.
Ol. Garyophyl. gut. ii,
Syr. Ros. sol. q. s.
M. f. Pill. vii.
Deaurentur.

§ 8. Of an Electuary.

R. Mechoacan. ras. ʒ i.
Gialap. pulv. gr. xv.
Ol. Stil. Macis. gut. iv. Man. Calabr.
Pulp. Tamarind. an. 3 ii.
Sy Ros. sol. q. s.
M. f. Elect.

This last præceding I have oft in a *Lixivial* Scorvey præscribed with success to those, whose Stomach could not bear an ill tasted Medicine.

CHAP. XXIV.

Of Antiscorbutic Alteratives.

§ 1. **I**N an *Acid* Scorvey these following are æstimated Specific Antiscorbutics, viz. *Cochlearia*.

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learia Hort. Garden Scorvey-grass, being the chief of all the rest, the next is *Nasturtium aquaticum* Water-creffes, *Becabunga* Brooklime, *Sedum minimum* Wall-peper, *Armoracia* Horse-radish, *Persicaria* Arsmart, *Arum* Wakerobin, *Semen sinapi* Mustard-seed, *Semen Erucæ* Rocket-seed, *Saponaria* Soapwort, *Chelidonium majus* Selandine, *Guaiacum Cortex Winterani*, the Flowers and Spirits of *Sal Armoniac*, Spirit of Soot, and of Harts-horn.

§ 2. There are also other Simples, which though they are not Virtuated with so Specific and Antiscorbutic a faculty, yet by deobstruſting and deterging the Bowels and Meſentery, and attenuating the groſs Tartarous Blood, they are oft experienced ſingularly to contribute to the Cure of Scorbutics, viz. *Rhaponticum verum*, *Helinium* Elicampagne, *Iris Florent.* *Orris-Gentiana*, *Centaureum minus*, *Absynth.* Wormwood, *Betonica* Betony, *Salvia* Sage, *Petaſitis* Butter-burre, *Filix Fern*, *Chamaedris* Germander, *Bacca Juniperi*, *Sambuci* Elder, *Ebuli* Dwarf-Elder, *Saturei*. Hereunto may be added the common Splenetic Vegetables, as *Fumaria* Fumitory, *Cort Rad. Cappar* the Bark of Capper-root, *Cort. Tamarisc.* *Cort. Fraxini* Bark of Aſh, *Ceterach* Spleenwort, *Agrimonia*, &c.

The Hermetic Art recommends *Tinctur. tartari*, *Tinct. Antimon. tartar.* *Elix. Proprietat.*

The ordinary Chymical Salts, as *Sal Absynth.* *Cochlear.* *Card.* *Centaur.* by as much as they participate of the Nature of Common Salt, are abſolutely hurtful. Among the common Spices, Pepper is experienced to be of an Ebullitious nature, and very præjudicial to all Scorbutics, and therefore ought to be omitted in thoſe Præſcriptions the Learned *Oxonian* hath recommended to the Publick.

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What concerns the forms of Compositions out of these forementioned Simples, it is to be remarked, that Electuaries, Tablets, Powders, and Syrups also, unless prepared according to that or the like manner I shall propose below, are of little or no use, and are only interspersed by Authors among their forms for pomp, or to add to the bulk of their Tracts; for it's the *Volatil Salt* is the sole energetic part of these Vegetables, which in the preparation of Conserves, and Syrups, and in reducing them into Powders for the use of Tablets, doth evaporate; wherefore I shall only offer to you some few select Forms of Decoctions, Infusions, Distill'd Waters, Spirits, and Juices.

§ 3. The form of a Decoction of little trouble, and less charge, but of great virtue.

Rx. Scob. Lign. Sancti. \mathfrak{z} ii.

Lign. Sassafr. \mathfrak{z} i.

Sal Tartar. \mathfrak{z} i.

Coq. in Aq. font. lb iv. ad consumpt. medietat. in Colat. infund. fol. Cochlear. hort. M. iv. Beca-bung. M. ii. Absynth. M. ss. Cort. aurant. \mathfrak{z} ii. Coletur & reservetur in Ampul. Vitr. Dos. \mathfrak{z} iv. ter per diem horis Medicis.

In the Winter when Herbs are scarce, I have frequently recommended this following with good Success.

Rx. Fol Cochlear. M. iv.

Chelidon. maj. M. ii.

Bac. Junip. \mathfrak{z} i.

Contundant. in mort. marm. sensim affund. Vin. alb. tennidr. lb i. exprimat. Liquor & reponatur.

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tur in Ampul. vitr. qui residendo clarescat. Dos.
 ʒ iii. vel iv. bis vel ter per diem.

§ 5. Of a Liquor by expression of Juices.

Rx. Fol. Cochlear. succulent. q. l.

Fol. Becabung.

Nasturt. aquat. an. part. med. Contund. in mort.
 marm. pist. lign. Liq. valide express. lb ii.
 adjiciantur. Cort. Winteran. ʒ ss. Cort. exten.
 aurant. ʒ ii. Croc. Anglic. ʒ ss. in phiola probe
 obturata per hor. 12. digerantur calore leni, de-
 in liq. coletur & in vitr. reponatur. Dos. ʒ iv.
 bis per diem.

§ 6. A Liquor by Infusion.

Rx. Rad. Armorac. ʒ i.

Rad. Gentian. ʒ ii.

Fol. Nastur. aq. M ii.

Fol. chamæd. Saponar. an. M i.

Flor. Centaur. min. Pi.

Rad. Zedoar. ʒ i.

f. infus. per noct. in Aq. Sassafr. odorif. Vin. alb.
 an. lb i. Colectr. de colat. capiat. ʒ iii. vel iv. pro
 Dose.

§ 7. Rx. Rad. Helen. rec. ʒ ii.

Rapban. ʒ i. ss.

Lign. Sassafr. ʒ i.

Fol. Cochl. Cichor. an. M. x.

Fol. Salv. Beton. an. M ii.

Sed. min. Persicar. an. M i.

Baccar. rec. Junip. Samb. an ʒ ii.

Distillantur per vesic. cum refrigerio suspendendo in
 rostro alembic. croc. anglic. in pet. legat. ʒ i. ss.
 capiat ʒ iii. pro Dose.

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§ 8. Spirits that are drawn by way of Fermentation do, besides the trouble and length of time required, suffer a considerable loss in their Volatil and Spirituous particles, which to evade, hath given me the occasion to find out a way, whereby the said Spirits are extracted in a greater quantity with very little Trouble or Cost, and much exalted in their virtues. This following I have oft Distilled, which may serve for a form for all the rest of the said Antiscorbutic Vegetables.

Rx. Rad. Armorac. ℥ iii.

Lig. Sassafr. Cort. Win. Aur. an. ℥ ss.

Fol. Salvia M i.

Sum. Absynth. vulg. P i.

Sal. Armoniac. ℥ ii.

Vin. alb. ℔ i. contusa & concisa digerantur per hor. xxiv. dein. destil. per Alemb. vitr. in cuius cucurb. fuerit calc. Viv. ℔ ss. Dos. à gut. xx. ad gut. xl.

§ 9. An Antiscorbutick Syrup.

Rx. Succ. rec. expr. Cochlear. ℥ viii.

Suc. Anagal. aquat. ℥ iii.

Suc. Betonic. Card. Ben. an. ℥ i.

Sacchar. alb. ℔ i. depurando

Coq. ad spissit. Syr. crass. cui frigesact. affund.

Spir. Cochlear. & Anagal. Aq. prædicto modo

simul. destil. ℥ i.

M. f. Syr.

§ 10. What relates to Elixir proprietatis, prepared according to the process of Crollius, it's a Medicine beyond all Objections very proper against the Scorvey; but two inconveniencies I apprehend in it, 1. By the immediate affusion of so great a proportion

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tion of Spirit of Sulphur, the other Ingredients are adusted or burned, whence the *Elixir* afterwards contracts an Empercumatic scent and taste. 2. By reason of the various Digestions and Distillations consumed a great deal of time, attended with some needless Cost and Charge. Both these the College of Physicians of the Hague endeavoured to avoid, by directing the procedure in their *Pharmacopoeia*, Fol. 106. in this manner,

Rx. Aloes puriss. Myr. Elect.
Croc. Anglic. an ʒ i.
Tritis ac vasi vitreo angust. orific.
Inditis, superaffunde.
Spir. Vin. rect. ℥ i. ss.
Ol. Sulphur. rect. ʒ vi.

Vase optime clauso f. digest. in VB. per dies quatuordecim; tinctura abstrahatur, que per decant. separata servetur usui.

Although by this prescription they seem to have superated those two fore-mentioned Inconveniencs; there is a third remaining, which renders it very inconvenient for exhibition, namely that upon the Instillation thereof into any Aqueous liquor, it's apt to be præcipitated in the form of a mucilage, all which to avoid hath given me the occasion, to prepare the *Elixir Proprietatis* thus:

Rx. Aloes Succotr. Myr. Elect. an. ʒ i.
Sal. Marin. bene exiccat. ʒ iv.
Distill. per retort. vitr. in aren. oleo distil. affund.
Spir. vin. rect. ℥ i. ss. spir. salis rect. ʒ i. addenti
Croc. arglic. ʒ i. post digest. 4. dies. in ciner. decant.

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Vel.

Adjiciatur *Croc. Angl.* ʒss. & diger. per dies 4. de-
in distil. in cucurbit. humil. appendendo extre-
mitat. rostri alembic. *croc. odoratis. nodul. inclus.*
ʒss.

Guttule oleosæ supernatantes separentur per tritor. &
saccharo albis. dissolut. addantur liquori distil-
lato.

§ 11. Medicines prepared of *Steel* have their
particular uses, even in this sort of *Scorvey*, being
designed to sweeten the Blood, by obtruding or alay-
ing, and imbibing the putrid *Acid Salts* of the
Blood; to this purpose the Learned *Oxonian* Author
doth single out from all other preparations that
sort of *Crocus Martis*, which by a long continued
Calcination is elevated into an *Acid*, and totally
stripped of its Salin and Sulphurous particles, ima-
gining that the foresaid *Crocus* through its droughtry
nature, doth *Appetere* and Absorb all Acrimonious
Salts and Sulphurs of the Humours, as being Con-
sistentaneous to those it is now deprived of. This
Mode of Reasoning is most certainly verified in the
Nature and effects of *Antimonium Diaphoreticum*,
Coral, *Pearl*, &c. But nothing is more Erroneous,
than the applying it to the *Ætiology* (as he may
term it) of that kind of *Crocus Martis*; for abstract
from it *Vinegar*, or any other *Acid*, by Distillati-
on, and you shall experience it, to come over every
whit as *Acid*, as when it was Affused. Wherefore
it ought to be abandoned from being used in any
Distemper, excepting in some Loosnesses or Hæ-
morrhages, where and when Emplastics may be
judged serviceable, and in those cases I have obser-
ved the Effects of *Terra damnata Vitriol. dulc.* far
more ample, having oft præscribed it with Success.

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§ 12.

§ 12. All preparations of *Steel*, that consist in the form of Powders are attended with an unavoidable inconvenience, being apt through their weight to descend to the bottom of the Stomach, and sometimes to penetrate through the pores of the inward Tunic, and there lodg between the Tunics, occasioning so great an oppression, that the Patient is rendered subject to almost incurable Palpitations and Lipothymies; for the *Steel Powder* is only with the greatest difficulty, and sometimes never to be Expelled from between the Tunics; insomuch that under that notion it may be termed Synonymus with Venoms, against which the Magnet Stone powdered and exhibited Internally, is the only Antidote. Not many years since I dissected one that expired of a *Dysentery*, against which an *Apoplexy* had for many dayes given two and three Drams of *Crocus Martis astring.* for a Dose; the same preparation that is so much Extoll'd by my Author. Upon the separating of the *Tunica Rugosa* from the middle Tunic, I detected a vast quantity of red sand, which upon Examination of what had been taken, I found was some of the *Crocus Martis* the skilful Glyster-pipe Doctor had given.

§ 13. Those that consider Salts to be dissoluble prefer *Vitriolum Martis* before Chalybeat Powders, designing thereby to avoid the Permanence of the latter in the Body; but then are certainly Frustrated in their scope of reserating oppilations, there being nothing so prevalent in an Obstructive and Astringive quality, as the foresaid *Vitriol of Steel*, which that you may give the greater credit to, I do discover to you as a great Medicine for stopping Hemorrhages, and it is by this sole preparation

I have.

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I have cured a great number of Spitting of Blood, and several Women of Immoderate Uterin Fluors, both sanguinolent, and White. Wherefore it must be deemed an Error *Albo calculo notandus* in those, who pretend to Imitate Diuretic Mineral Waters, such as the *Savenier* at the *Spaw*, and the Wells of *Stridg*, by dissolving of Chalybear Vitriol in Spring-Water: but how great a Detriment this must necessarily import, may be best understood from those, to whom they have been prescribed. Notwithstanding by means of another method, Artificial-mineral Waters may be prepared so effectual and pleasant withal, that they shall in a great measure excel the Natural. By the advantage of these I have freed several from *Lixivial Scorveys*, that had proved obstinate to all other methods.

Touching the use of Purgative mineral Waters, *Barnet*, *Epsom*, *Dulledg*, *Chigwel*, *Stratham*, *Weymouth*, &c. To some Scorbutics they have proved Auxiliary, to others Hurtful.

§ 14. The Virtue of those Diuretique mineral Waters is derived, from a permixture of some rude Elements of *Iron*, imperfectly Coagulated or Compounded into Particles, with Water sourcing near and washing through the *Matrices* of the said rude imperfect ferruginous Elements; or to be more plain, the said mineral Waters do consist of a dissolution of Vitriolat Salt, volatilized by the *Sulphur* of *Iron*. From the *Vitriol* it is, the Water is disposed to turn black upon the addition of *Galls*; from the Volatilizing *Sulphur* associating to it some of the Subtilest, Acid, Piercing, and Insinuating Particles of the *Vitriol*, it is, that they prove so excellent in driving down the *Urin*; and from the Exhalability of the said Volatil Salt or *Sulphur*, vo-

lutilizing the purest part of the fixt Salt, it is, they upon a very small interval loose their Diuretic Virtue, especially if violently shaken or moved, by being transported by Horse or Cart; though notwithstanding that, they will not lessen in their aptness of turning black by Galls, as long as they continue Imprægnated with the fixt Vitriolat Salt, which probably may be long enough; but in the *Interim* would have you to escape that Error, many unpolisht Philosophers commit, in judging the said Water to continue vigorous in it's Urinating quality, as long as it continues alterable by Galls. On the contrary, as soon as it hath suffered the loss of all its Volatil Salt, which is in very few dayes, it doth assume a binding obstructive quality, and that in so dangerous a manner, that some have died of it, for the Water remaining in their Bodies, and not being carried off, had suffocated the Vital flames of the Heart and Arteries.

Those that have made Observation on the number of such, that have been hurried out of the World both at the season of their drinking the Waters of *Tunbridge*, or soon after they had left them off, may very well conclude, either that the said Waters were not proper for their Distemper, or that as too frequently happens their Bodies were insufficiently præpared; for it is far from a proportionable præparative, to Exhibit only a Dose of Stomach Pills, or a little *Pulv. Senæ. comp. maj.* but upon the use of a proper Purge or two, some good Aperitive præparation of *Steel* ought likewise to be mixt with a Cathartique, and then they will Experience their Bodies to have been well præpared by the safe and successful use of the Waters upon it.

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§ 15. The Waters of *Barner, Epsom, &c.* are rendered Diuretic, Purgative, and sometimes Vomitive, through an Imbition of some immature principles of Copper, as appears on the tryal by *Lapis Calamitarius*, or *Sal Armoniac*. The Cathartique and Emerique faculties issue from the Sulphur of *Vitru*.

Among other numerous capricious Chalybeat preparations, I find no form so agreeable, and greatly successful, as the Tincture of *Steel*; but not when prepared after the usual flovenish mode. Some sorts of Dulcifying medicines in many Cases do wonderfully contribute to the Cure of an *Acid* Scorvey, by obtusing the Acrimony of the Blood; such are most Testaceous Simples, as *Coral, Pearl, Crabs-Eyes, Crabs-Claws; Oyster, Muscal, and Egg-shells*; add to these *Antimonium Diaphoreticum, Bezoard. Mineral. Bezoard. Jovial. Magister Jovis, Chalk, &c.*

C H A P. XXIV.

Of Specific Alteratives in a Lixivial and Saponary Scorvey.

§ 1. **T**he Simples that are indued either, 1. With a Lencour or mucilaginous moisture. 2. With an Acidity. Or, 3. With a cooling detergent Faculty, are esteemed very proper, and useful in an Alcalious Scorbut. Through the first of these Qualities they lenify and mitigate the Acrid-

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monious Salts of the Humors; through the second they Hebetate the corroding *Alkali*; and through the third, they move, attenuate and dived the *Pudulent* parts of the Blood, withall Clarifying or Depurating it from its Impurities.

1. Of the first Order. Are,

Borrage, Bugloss, Violets, Mallows, Marsh-mallows, the four greater Cold seeds, Fijubees, Salsens, Corrents, Liquorish; Gum Arabic, Dragant, Milk, and in some Cases the Milk Diet.

2. Of the second Qualification. Are,

Acetosa Sorrel, Trifolium Acetosum, Wood-Sorrel, Oranges, Limons, Citrons, Cremor and Spiritus Tartari, Spiritus Diana, Spir. Sulphuris, Vitrioli, Salis com. nitri, Veneris ex aerugine, Antimonii, Spir. acid. Guaiac. Juniper, Liquor Corallorum, Perlarum, Crystalli acidani, &c.

3. Of the third Rank. Are,

Ligustrum Privet, Aparine Clivers, Chelidonium minus Pilewort, Nummularia money-wort.

4. These four are by Authors proclaimed Specifics in the *Scorvey*, the frequent Experience of their Use in some Scorbutiques confirming them to be such; but their Ignorance, through what manifest Virtue their Effects are performed (these being diametrically contrary to the other *Igneous Volatil Specifics*) renders them incapable of judging, to what sort of Distemper, in what manner, and at what time they ought to be appllied. A while since, a Patient made her complaint to me of sharp running pains, flying up and down her Limbs, a pricking in her Gums, glowing of the Calves of her Legs, and sometimes of the Shins, a gnawing pain about her Ancles, especially upon much stirring, heats and pustles in her Face. She had made use of several Physicians, whose Opinion concluded

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concluded her Distemper to be the *Scorvey*, and therefore had prescribed several Decoctions, and Infusions of *Scorvey-grass*, *Water-creffis*, &c. Distill'd Waters, and Spirits of the like Ingredients, all which she found, had rendred her much worse, but some two Years before, confessed she had derived much benefit from them, but now they extremely aggravated her Symptomes. This method of Cure I perceived depended on Indications, desumed from those pestilent principles of *Rancid* and *Pendulous*. The Error flowed from apprehending this an *Acid* *Scorvey*, which plainly appeared to be *Lixivial*. I prescribed her this Lenitive :

Rx. *Pulp. Cass.*
Tamarind. an. 3 ii.
Mechoachan. alb. ras. 3 ss.
Pulv. sen. comp. maj. 2 ss.
Crem. Tar. 2 i.
Syr. ros. sol. 3 ii.
M. f. Bol. ii.
Deaurentur.
Capiat mane cum custodia.

This Operated very gently and well, upon one days interval it was repeated. The fourth day she took this following Drink, and continued it three Weeks.

Rx. *Rad. Buglos.* 3 i. ss.
Fol. Aparin.
Nummular. an. M. iv.
Decoq. in Ser. lact. q. s. ad 1b i ss.
In Calat. dissolv. Cryst. Tar. 3 i ss.
M. f. Apoz. pro 4 dos. mat. & vesp.

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Once a Week she made use of the above written Bole. In the space of her whole Course of Physick, she was Blooded once in the Right Arm, and once at the *Hæmorrhoides*. The success of these means restored her perfectly to her former Health, in less than a month, which she hath enjoyed ever since. How easily is a Distemper cured, whose Cause is rightly understood; whereas had this Woman adhered to the præscriptions of her pendulous Physicians, she would certainly have been among her Ancestors long ere this. Others I cured of the same kind of *Scorvey* (*Premissis Universalibus*) chiefly by this following:

Rx. Rad. Sarsaparil. ℥ iii.

Rad. Chin. non carios. ℥ i.

Rasur. Eboris ℥ vi.

Coq. in aq. font. lb vi. ad consumpt.
unius tertiæ, sub fin. coct. adde.

Rad. Cichor.

Scorzon. an. i. ℥ ss.

Fol. Chelidon. min. M. vi.

Colaturæ affunde.

Elix. Antimon. fulv. ℥ i. ss.

M.

Capiat ℥ iv. ter per diem horis Medicis.

Note, that *Sarsa* and *China* are made use of in this Decoction not for their Sudorifique faculty, but for a quality they are endued with of sweetning the Blood, by obtusing its Acrimonious Salts, through the Lentour which their farinaceous substance contributes to the said Decoction.

5. To those four principal Antiscorbutic Vegetables may be added these following, *Scorzonera Hisp.* Vipers-Grass, *Clematis Daphnoides* Periwinkle, *Rhaponticum*

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Rhaponticum vulgare Great Centuary, *Virga Aurea* Golden Rod, *Rumex acutus* Ditchdock, *Hispidula* Gansfoot, *Auricula Maris* Mouleare, *Aquilegia* Columbine, *Rad. Graminis*, *Geranium Rupertianum* Herb Robert, *Pyrola* Sea-lavender, *Cichoreum* Succory, *Sempervivum majus* Housleek, &c.

6. The difference in qualities of these Simples cannot escape your Advertency (though all agreeing in the same faculty, of oppugning *Lixivial* and *Saponary Scorveys*) some being temperate, some cold and moist, others cold and dry, and astringent; for which reason you may presume, their use is limited to Diseases, though *Lixivial*, yet attended with particular Symptoms, so that they are not promiscuously to be applied. But because Practical instances may serve you for a more clear Example, I will give my self that trouble of setting down the Case of a Patient, who repaired to me the last preceding Year; It was a great heat in the *Epigastrical* Region of the *Abdomen*, that chiefly Incommoded him, which for the most part exercising its fury in a fixt place, that sometimes was at the bottom of the Stomach, sometimes a little lower (which must be in the *Pancreas*) and sometimes on the Left-side, where the *Spleen* resides; so that here was a *Lixivial* Scorbutic Humour, that from the *Spleen* was tossed to and fro to the Stomach, or sometimes to the *Pancreas* through the *Splenic* branch and *Vas Breve*; the other Symptoms were a nidorulent crudity of the Stomach, a dejected Appetite, thick red dyed Urin, low inæqual Pulse, difficulty of Breathing, and purple Pustles erupting and retroceding in the Face. Those several eminent Physicians (that is eminent for a numerous Practice) subsequent to their Opinion that it was the *Scorvey*, had for several years treated him, with those common igneous

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Antiscorbutics, until his daily Experience of the prescribed Medicines discovered to him, it was to those unskilful Courses of Physick he must impute a great part of the growth of this Disease. His Body being very thin and exanguious counter-indicated Bleeding. The Crudities of his Stomach and Infarctions of the *Mesaraic* Vessels by Lixivial pendulous Blood required Lenitives, mixt with some gentle Cathartics.

Rx. Elect. Lenitiv. Man. Calab.
Pulp. Tamarind. an. ʒ ii. ss.
Nitr. Tartar. nostr. gr. xxv.
Diss. in decoct. Prunor. dam. & sem. fen. ʒ iii.
M. f. Pot.

This he used twice a week; in his interval days took this following Drink for five Weeks, and was perfectly restored to his former Health; but for confirmation of his Cure, I ordered him to drink the Waters at *Tunbridge* for one and twenty days.

Rx. Rad. Tarax. ʒ i.
Fol. Chelidon. min. M iiii.
Semperlov. maj. M i.
Glycyrr. ras. ʒ ss.
Coq. in ser. lact. q. s. ad ʒ i.
Coletur. & infil. Elix. Antiscorb. nostr. ʒ ii.
M. f. Apoz.
Sine sacchar. vel Syr.

§ 7. To another Scorbaticque whose Palpitations and Lypothemles had rendred him very languid and weak, besides Purgatives and Bleeding at the *Hæmorrhoides*, prescribed this.

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R. Rad. Scorzon.

Vincetox. an. ʒ i.

Fol. Chelidon. min.

Aparin. an. M ii.

Virg. Aur. M i.

Hord. Mund. P i.

Glycyrr. ras. ʒ i. ss.

Coq. in Aq. font. q. s. ad lb i. ss.

*In Colat. dissolv. nitr. Tartar. ʒ i. & insill. rind
mart. gut. xv.*

M. f. Apoz.

Capiat ʒ iv. ter per diem horis Medicis.

In case a Scorbutique of this kind is afflicted with a *Diarrhœa*, or *Dysentery*, you must make choice of *Ligustrum*, *Auricul. Maris*, or *Hispidula*; if *Dyspeptic Ulcers* of the Legs be the prævailing Symptoms, præfer *Virg. Aur. Pyrola*, *Symphyt. Petr. de Bellis*.

It is this sort of *Scorvey* and its subdivisions (which hitherto hath not been observed by any) that occasions so many ambulative Patients, wandering from one Physician to another, among whom some are so ingenious to confess, they do not know what name to give the Distemper, or what to make of it.

§ 8. Besides these forementioned I have found a singular Virtue in *Steel drops*, prepared after my mode; likewise in an *Elixir Antiscorbuticum*, the basis whereof is *Antimony* stripped of its venomous *Sulphur*, and rendred Cooling, Diuretic, and a very high Mundifier of the Blood. Neither have I ever observed a medicine in most Scorbutic Cases, to exceed the powerful faculties of my *Nitrum Tartarizatum*, the præparation whereof is, as followeth;

but.

but for your prævious information, you are to take notice, that in præparing *Antimonium Diaphoreticum*, I am used to add a triple proportion of *Salt Peter*, pulverised and sifted, to crude *Antimony*, likewise powdered and sifted; this being mixt together, I put by little Ladlesfuls into a Pipkin made Red hot in a Reverberating Fornace, covering the Pipkin upon every Injection of the said mixture; and having injected all, I cover the Fornace with a great Tile, and let it Calcine, until the Coals be burned out. The Mass being yet warm I powder, and put it into a large Bason, on which supposing the mass to be a Pound in weight, I pour about a quart of warm Water, and stir it very well about, afterwards let it stand four or five hours, that the Powder may settle on the bottom, decant the Water into an Evaporating body, affusing to it half a pint of distill'd Vinegar, evaporate it to a Pellicle, and set it in a Cellar or other cool place, and there let it continue three or four days to Crystalize; collect the Crystals, and evaporate the remaining Liquor again to a Pellicle, afterwards set it on Crystalizing, and so proceed, until all is passed into Crystals. Dissolve the Crystals into distilled Spring-water, strain it, Evaporate and Crystalize it over again, until it prove very pure and transparent. What relates to the remaining *Calx* of *Antimony*, proceed to your ablutions, until the Powder be perfectly Edulcorated; It is not here I desist, but make a farther progress to a maturation, and protrusion of the essential or oemtrical *Sulphur*, and then I find it to be a Medicine, that deserves a singular Character in many Distempers.

§ 9. I ought not to recede from the præparation of *Nitrum Tartarizatum*, without giving a description

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on of its Dose and Virtues; from half a Scruple to two Scruples, it hath performed effects in the Scorvey and some other Chronical Distempers, which could never be expected from the *Arcanum Duplicatum*, *Tartarum Vitriolatum*, or such Hermaphroditic preparations, and Neutral Medicines; for besides its penetrative, incisive, detergent, and deoppilative Qualities, it doth retain a proportion of Antimonial Salt, Central Sulphur, and a true Idea of what ever excellent Faculties *Antimony* in its best preparation is enricht with, so that there is scarce any Impurity (whether manifest or latent) in the blood or bowels, that can escape its energy; but when you have made use of as many Ounces of this *Nitrum Tartarizatum* as I have, I doubt not but you will have cause to give the same Character of it I have here Expressed.

C H A P. XXV.

Of the Cure of a Stomachic Acid Scorvey.

§ 1. I Must necessarily premise one Observation touching the structure of the Stomach, before I can render the Indications plain and obvious. Its contexture doth consist in four membranes. The first I call the *Tunica Mucosa*, or the slimy Coat, being destined by Nature for a defence of the nervous Tunic from those Acrimonious moitures, the Stomach upon every digestion doth abound with. This Tunic if at any time it be abraded,

ded, occasions great Pains, Vellications, continual Singultitions, and enormous Vomiting. The second from those various Sulcations and Wrincklings may aptly be termed the *Tunica Rugosa*. This Tunic is very Nervous, and consequently indued with a most exquisite sensibility, derived from the Ramifications of the External branch of the sixth pair, and from the *Plexus sexti paris mesentericus*; the use of it is, to corrugate the Stomach, and to amplex the ingested Victuals firmly and strictly. Both the fore-mentioned Tunics late Authors have improperly named the *Crusta Carnosa*. The third I call the *Tunica Fungosa*, consisting of a lax spongy flesh, serving to give an ample space and passage for a large proportion of Arterial Blood, from whose presence and præterflux in its Circulation, the Stomach doth receive a sufficient heat to dissolve, concoct, and elaborate its contents into a Chyle. Another great use is, that it is subservient in the nature of a *Concoctory*, where the crude Blood circulating is to be Digested or Concocted into a sweeter and equal Mass; so that you must make this Annotation, that it is here the gross, and phlegmatic crude Blood doth so frequently stagnate; whence that pesanture and load at the Stomach, which the Sick do so commonly make complaint of in most distempers, is occasioned, and not from crude viscous Humours in the capacity of the Stomach, which Physicians, with the Ignorant vulgar, term a Cake of steam; for were this a truth, a detergent *Aloetic Laxative* would at once scour the Stomach, and disburden it of those weighty Humours, or at least a Gallard Vomit cannot be supposed to fail in that Indication; but on the contrary we find, that in many Cases scarce a score of proper Purgers, or half that number of Emetics will accomplish the design; however this

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this is not to be apprehended so strictly, but that some crude Humours may float, or through their tenacity adhere to the sides of the Stomach, and may be as conveniently removed thence by a detergent Laxative. It is in this Tunic where many Distempers take their root, which generally proves of so difficult an eradication; but be not so facil, as to erre with the groſs of Physicians, in imagining, that it is those thick mucilaginous humours, penetrating through the *Tunica Mucosa* and *Nervosa*, do lodge in the *Tunica fungosa*, and constitute the Cause of those durable pesantures of the Stomach; for the said Humors are nothing near proportioned in subtilty to pass through the thick and compact bodies of the forementioned Membranes. The fourth Tunic is the common Tunic, derived from the *Peritonæum*.

§ 2. This sufficeth to inform you, that in a commencing *Stomachic Scorvey* nothing is more properly indicated, than an *Aloetic Ecceprotic* prepared, as hath been proposed before, and repeated once, or twice, and sometimes thrice a Week, and in the interval days a Detergent and Antiscorbutic decoction. Thus I have cured several with these following prescriptions, being sometimes a little varied to answer their several Temperaments, Ages, and other Circumstances.

Rx. *Moss nast. præp.* 3 li.

Cort. Winteran.

Nitr. Tartarizat. an. 3 li.

Syr. ros. sol. q. s.

N. f. Mass. Pil.

Equavis 3a. fermentur Pil. N°. ix. & deurentur.

capiat Pil. iv. vesp. sub ingress. in lect. & Pil.

v. sequent.

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v. sequent. *aurora*, *superbibendo haust. liquor sequent.*

Rx. *Fol. Cocklear. hort. M iv.*

Fol. Becabung. M ii.

Sum. Absynth. vulg. Pi.

Flor. Centaur. 3 i ss.

Cort. Aurant. 3 ii.

Infund. in Aq. Cochl.

Vin. alb. an. 1b i.

Expressio reponatur in ampul. vitr. sumat. 3 iv. ter per diem horis Medicis.

§ 3. From the clogging and burden of the *Tunica fungosa* we are to desume this Indication, that a safe and well præpared Antimonial Vomit is particularly pointed at, which through its most subtil *Sulphur* doth penetrate in a very short space through the whole Body and every part of it, dissolve the most tenacious Humours, and by stimulating the Nervous Tunic of the Stomach doth dislodge, and throw off those obstinate adhærents; and among those numerous præparations, I could never yet find any more safe and effectual, than my *Antimon. Resuscitat.* the process whereof is described in my *Great Venus*. But where a Vomit is counter-indicated by the unaptness and difficulty of evacuating that way, take your refuge to *Gum Cathartics*, which used for Eight, Ten, or Fourteen days, oft do wonders. The following Mass of Pills in cases of this nature I have several times præscribed, with a success suitable to the Excellency of its Ingredients.

Rx. *Aloes succotr.*

Gum. Ammon. an. 3 ii.

Solvantur in tinctur. gentian. q. s. instillat. Spir.

Vitriol. philos. gut. xx. solutio coletur & evaporat ad mellagin. addendo deinceps.

Spic.

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Spec. Diasen. 3 iii.
Sal. Chalyb. nostr. 3 ii.
Nitri. Tartar. 3 i. ss.
Bezoard. Jovial. 3 ii ss.
Ol. Succin. gut. xv.
Elix. Proprietat. q. s.
M. f. Mass. Pilul.
Dof. a 3 i. ad 3 i.

§ 4. Since of Scorbutic Distempers, longer Courses than of a Fortnight or three Weeks, do not only occasion a *Fatigue*, but a weakness also to the Stomach, a confortative Electuary ought to be made use of for six or seven days, and then return to a repetition of the foregoing Course; for Chronical Diseases, especially Scorbutics, proving very obstinate, require frequent reiterations of Medicines.

A Confortative Stomachic Electuary.

Rx. Conserv. Anth. Salv.
Absynth. pant. an 3 i.
Pulv. Stom. ex aron. Quercet. 3 i.
Zedoar. Cort. Winter. an. 3 ss.
Elix. Proprietat. gut. xxxx.
Syr. cort. citr. q. s.
M. f. Elect.

Capiat quotidie ad magnitud. castan. duabus horis ante pastum.

§ 3. An Hepatic Scorvey is vigorously oppugned by these two specifics; *Aparine*, and *Chelidonium minus*. Most cooling vulnerary Vegetables do also very much conduce to the Cure of this Distemper; hereunto add *Agrimony* and *Lapathum acutum*.

C H A P. XXVI.

*Of the External Cure of the Mouth-
Scorvey.*

§ 1. **B**Y what means to act against the Internal root of an *Acid Scorvey*, hath been formerly declared; how to rescind this Branch, the *Mouth-Scorvey*, by extrinsic Remedies, is the purport of this Paragraph. The correcting and subduing the putrid acour of the Blood, appelling to the inward parts of the Mouth, and there occasioning a Vacillation of the Teeth, painful, spongy, tumefied and discoloured Gums, I have more than once proved successful in, by this following Liquor.

Rx. *Fol. Cochlear.* M viil.

Fol. Salv. P. iiii.

Post contus. in mort. marm. exprimatur succus, in q. dissolv. Alum. rup. ℥ i. Colcoth. Vitriol. ℥ ii. reponatur in vesic. Snil. quæ strict. clausa suspendatur in aq. donec Alum. & Vitri. fuerint penitus solut. dein destil. è cucurb. humil. in aren. residentia denuo suspend. in vesic. & repetatur destil.

Linteo præscripto Liquore imbuto confricentur gingivæ bis vel ter per diem.

This Liniment in some manner doth imitate the Virtues of the former.

Rx. *Fol. Salv. sic. pulv. ℥ i.*

Rad. Tormentil. pulv. ℥ ii.

Flox.

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Flor. sal. armon. chalyb. 3 ss.

Balaust. pulv. 3 i.

Mel. Crud. q. s.

M. f. Liniment.

Quo sepius inung. gingiva.

§ 3. If by reason of a greater Acrimony and Putrefaction of Humours the Gums grow Ulcerous, nothing seems parallel to this Colution.

Rx. Lixiv. calc. viv. 3 iv.

Tinct. gum. Lac. 3 i. ss.

Elix. proprietat. 3 ss.

Alum. Vst. 3 ii.

Colcoth. vitriol. 3 i.

Mel. ros. 3 i.

M. f. Collut. oris.

Qua sepius gingiva madefant.

CHAP. XXVII.

Of the External Cure of the Leg-Scorvey.

§ 1. **D**Epascent and Dysepulotic Ulcers are those obstinate Symptoms, that require a particular regard, against which my *Lapis Salutis* hath been experienced to be very prevalent.

Rx. Vitriol. Rom. 3 iv.

Cerus.

Litharg. Arg.

Vitriol.

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Vitriol. Mart. an. ʒ ii.

Virid. æris. ʒ i.

Coq. in Acet. acr. ad supereminentiam duorum digit. semper agitando, donec acquirant consistent. luti, addita Bol. Armen. ʒ i. coq. ad duritiem lapidis. Hujus particula solvatur in Vin. rub. adstring. q. s. quo lotis ulceribus applicentur iisdem plumaceoli eo madefacti.

§ 2. In case the Ulcers be very foul, the following Liniment may serve for an excellent Deterger.

Rx. Ol. Jovis Mercur. ʒ i.

Mel. Rosat. ʒ vi.

M. f. Liniment.

§ 3. *Scorbutic ulcers* of the Legs, though exquisitely deterged and incarned to the Surface, nevertheless prove *Dyssepulotic*, or difficult to be acartized by common *Epulotics*, whose defect is oft wonderfully supplied by the amalgamation of Lead, being subtilly pulverized, lævigated, and inspersed pretty thick on the said Ulcers, and covered with unarm'd plegets, or dry Lint.

In conclusion of this Chapter, I shall only insert this *Caveat*, to forbear using any kind of Unctuous greasie Medicines, be they Emplasters, Unguents, Liniments, or Oyls, they being all of a putrefactive nature, especially in this sort of Ulcers.

What concerns Spots, Blotches, or Pustles, they do not require any particular applications, since they usually vanish with the rest of the internal symptoms, upon a due course of Medicines.

C H A P. XXVIII.

Of Cordials.

§ 1. **T**He Vital Faculty being commonly very languid in Scorbutic Distempers, indicates *Cordial Resolives*, and *Analeptic Corroboratives*. The former are chosen out of fragrant and spirituous Vegetables, viz. *Flor. Borrag. Buglos, Ros. Viol. Calendul. Summit. Melis. Ceras. Nigr. Mala Citrea, Serpil. Citrat. Menth. and Flor. Aurant.* which latter in Vertue, Efficacy and Propriety, is a Specific Cordial in most Hypochondriac Maladies, by far exceeding all the fore-mentioned; and therefore cannot but wonder, that Physicians have of late years estranged themselves from the use of it: But in this as in many others I find some to be very mutable; sometimes Acids, and Coolers are to be prescribed in Fevers, otherwhiles they esteem them pernicious, and hot Volatils are only to be recommended; and so the like instability of Practice may be observed in several other Distempers; what principle this flows from, you may easily conjecture. To these may be added the less heating Aromatics, as *Mace, Nutmegs, Cinamon, &c.* likewise Wine, some vinous Composites, and some Alexipharmacs.

§ 2. Out of these several Compositions, may be prescribed this following, which hath been experienced not to be unpleasant, nor ineffectual.

R. Aq.

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Rx. *Aq. stillat. ceras. nigr. tot. citr.*
Serpil. citr. aurant. an. ʒ i ss.
Aq. Cinam. tenuior.
Vite Matth. an. ʒ i.
Suc. Kerm. ʒ i.
vel Consect. Alkerm. ʒ iv.
Syr. Malis. ʒ i. ss.
Spir. Menth. ʒ i.
M. f. Jul.
Capiat cochl. ii. vel iii.
urgente languore.

The *Citron* and *Limon Thyme* water I suppose to be Distilled upon a prævious digestion with half water and half small *French* wine. *Aq. Mirabil.* I seldom make use of, because it's a Water very unpleasant, and consisting of disproportioned Ingredients. You must manage your Election of the foresaid Cordials according to their proprieties against an *Acid*, or *Lixivial Scorvey*.

§ 3. The *Analeptic Corroboratives* are chiefly Broaths made of a Cock, Chicken, or Veal, with the addition of Barley, or a Crust of Bread, Cordial Flowers, and a small proportion of Mace.

CHAP.

CHAP. XXIX.

The Cures of a Scorbutic Atrophy, of
the Gout, and of Convulsions.

§ 1. A Scorbutic Atrophy is remedied by reducing the Blood to it's natural temperament, whereby its rendred Nutritious, and apt to repair the dissipated parts.

Goats Milk, wherein Antisorbutics have been boil'd, is universally received for a great Remedy in this Case.

Likewise this following in a Lixivial Atrophy.

Rx. Rad. Consolid. \mathfrak{z} i.

Fol. hepat. stellat. M iv.

Fol. Chelidon. min. M ii.

Ligust. M i.

Flor. Borrag. P ii.

Decoct. limac. vit. & ped. vervec. lb iiii. post digest.
quatuor horar. destil. & cucurb. vitr. humil. in ci-
nerib. de quo capiat \mathfrak{z} iv. ter per diem scilicet bo-
ra 8. 11. & 4. pomeridiana.

§ 2. Against Scorbutic arthritic vagous pains, I find nothing equal to my *Tinctura Chalybis*, and *Tinctur. Antimonii Fulva*, either or both being in proper Vehicles, exhibited for 14, or 21. days.

This Observation I affirm is universal in this Climat, that all or most Arthritic pains both Vagous and Fixt are either Scorbutic or Venereal, that is depending on a Venereal impression or Tincture, which some former Malignant infection (though cured

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red 10 or 20 years past) hath left; for all Varolous diseases leave a stain or impression on the parts, which is as little deleble as the mark of a Blast, or a *Cicatrix* of a Malignant Ulcer; for this reason these sorts of Gouts shall never be Curable, or indeed scarce palliable without Antiscorbutic or Antivenereal Specifics, or both mixt with Arthritic Medicines. Scorbutic Arthritic fixt pains I have oft removed by my *Spir. Arthritic.* extracted from the Sulphur of several Minerals. For an Anodine and Palliative Topic, against the said Joynt torments, I only apply a *Cinnaber Emplaster*, but not that recommended in my *Great Venus*.

§ 3. Some Scorbutic Convulsions this following *Elixir* doth vigorously oppugnate.

R. *Elix. præon. præp. cum Spir. acid. Succin.* ʒ ss.
Sal Antimon. nostr. ʒ ii.

M.

Capiat. gut XX. vel XXX. ter vel quater per diem in Decoct antiſcorb.

The Antispasmodics contained in the *London Dispensatory*, are chiefly these; *Ungula alcis*, *cranium humanum*, *viscum querc.* *Aq. Ceras. nigr.* *Lilior. convall.* *Flor. tilie*, *paralys. ruta*, *Aq. Pæonia compos.* *Spir. lavendulae compos.* *Spir. & tinct. castorei.* *Spir. Lumbricor.* *Spir. Angelic.* *Aq. Petasit. compos.* *Syr. infus. Flor. pæon. item Syr. Pæon. compos.* *Syr. de beton. compos.* likewise *Ol. Succin. Spir. C. c. & Ol. Guaiac.*

I have known two ounces of *Aq. Gentian. compos.* to do wonders, in suddenly removing Convulsion fits in Men and Women.

The most proper form for Exhibition of the forementioned Specifics against Convulsions is a Julep prescribed in this or the like manner.

R. *Aq.*

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Rx. Aq. flor. til. rut. ceras. nigr. an. ʒ i.

Aq. Pæon. comp. ʒ i ss.

Tinct. Castor. ʒ i.

Rad. Pæon. p.

Castor. p.

Ungul. alc. ras. an. ʒ ss.

Syr. Pæon. comp. ʒ i.

Ol. Succin. rectif. gut. x.

M. f. Jul.

Capiat. part. med. ante paroxysm. Convulsiv. & alteram post parox.

For a Topic nothing is comparable to *Balsamum Succini*.

In some Scorbutic Convulsions an Electuary may be proper to prevent the Paroxysms, because it's not so soon digested, but remains a good while in the Stomach to disperse its Vertues to the parts affected.

Rx. Conserv. Flor. Pæon. m.

Paralys. anth. an ʒ i.

Rad. acor. condit.

Nuc. Moscat. cond. an. ʒ ss.

Consect. Mithridat. ʒ i ss.

Rad. Pæon. pulv.

Castor. pulv.

Ungul. alc. ras. an. ʒ ss.

Syr. de Pæon. comp. q. s.

Ol. Succin. rectif. gut. xv.

M. f. Elect.

Capiat ad magnit. castan. duabus horis ante cibum.

C H A P. XXX.

Of Malignant Fevors, and Small Pox.

§ 2. **T**HE Malignity that so oft is Concomitant and Supervenient to continual Fevers, constantly almost Reigning in and about *London*, seems chiefly to derive its Original from the ill temperature of the Air, which as hath been declared, is Salin and Scorbutic. That this is the principal Procataretic, is evident from these two Reasons: 1. Because Persons differing from one another in the use of all the other *Non-naturals*, are subject to be surpris'd by the same malignant Fever, which consequently must then solely be derived from the Air, that only of all the *Non-naturals* being the same, and common to all. 2. Because many of those, that have the misfortune to fall Sick of a *Malignant Fever*, have been most temperate and regular in their Diet, Motion, and Resting, Sleeping and Waking, Excretions and Retentions, and Passions of the mind; so that it must be the Air only, that lies imputable of this malignant effect; add hereto, that *English* Bodies when incident into Fevers in some other Climates, are not afflicted with those malignant Symptoms. The causality through which a Salin Air produceth such malignant febril effects, is by disposing the Body to engender great measures of gross Fuliginous and very Acrimonious Steams, which by reason of the constipation of the External pores, and of other Internal obstructions are repelled, and incorporated into the whole current of the Blood,

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Blood, kindle and inflame its Bituminous parts, whose flames are thereby rendred malignant and venomous to the Spirits, which then prove the immediate Cause of those malignant Symptoms. 3. By this means the Blood soon becomes Lixivially Salin, Saponary, and runs into a gross deliquious Oyl, as plainly appears, when occasionally tap't out by Phlebotomy. Now the great difficulty of reducing this viscuous saponary Blood to its former qualification, and freeing it from that gross Salin and Acrimoni-ous Fuligo, is the Cause, that renders Malignant Fevers so indomitable, and extremely pernicious. Upon this Hypothesis, which your strict Scrutiny and Observation in Practice will abundantly confirm, how Deleterious the ordinary method of Curing the said Fevers, and how contrary those hot Cordials exhibited by spoonfuls prove, is easily discovered; for instead of moving Nature to sweat by an Inci-sive, Attenuating, and Volatilizing quality, and by Amortizing the Lixivial Salts, they render the said Salts more Lixivial and absorbing, and consequently dispose the Body not towards, but against Sweating. Whether are the times or seasons observed for exhibiting of medicines, that are accordingly to be varied in quantity, quality, and other circumstances; a certain directory of all which can never be attain'd by Indications, desum'd from that impertinently improved Notion of Fermentation, which hath been the occasion of posting hundreds to the jaws of Or-tus. What measures ought to be taken in point of management and Cure of this Distemper, I have already propos'd in my *Tractatus Theoret. & Pract. de Febris*; But in short, the necessary præmisses not being omitted, I do repose a great confidence in an Antisebril Elixir, consisting of ingredients of a mixt nature; and in *Spir. cornu cervi* præpared in a peculiar manner.

§ 2. The *Small Pox* being in some kind not unlike the foregoing Distemper, I will only give my Sentiment, with Directions relating to the Cure, and then take leave. I cannot give Credit to the received opinion, importing, that the *Small-Pox* is caused by some Impurities, the *Fœtus* contracted in the Womb, which afterwards Nature doth cast forth into those virulent Pustles: this among the rest is certainly a *Deliramentum Antiquitatis*; for considering that in *Guinea*, most parts of *Africa*, and almost throughout whole *Asia*, the Natives, or indeed the strangers are never surprized with the *Small Pox*, though their Impurities contracted in the Womb (if any after many years interval) cannot be supposed less than ours, we must conclude, that it is rather an *Endemic Disease* peculiar to the Northern Climes, or rather a seasoning or alteration of the Nature of man, arriving out of the *Microrocosm* of his mother into the *Macrocosm*, impressed by the rudeness and difference of temperature of the Air of Northern Climes from his primogenial Temperament, which needs no other Confirmation, than the Instance of those *Guineans*, *Indians*, and others, who soon upon their arrival into those Climes are attacked by the *Small Pox*, which I can term nothing but a Seasoning, in like manner, as Northern Bodies are seasoned with other Diseases of the Climate, that transport themselves to *Virginia*, *Barbados*, or other parts of the *West* or *East Indies*. That some undergo this seasoning of the *Small Pox*, soon after they are crept out of the shell, others when they are grown up to riper years; and some not at all, being prævented by some mortal Distemper, is occasioned, through the strength of Nature, some Bodies are indued with above others, (that undergo the fore-mentioned seasoning soon after their Birth)

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fifth) whereby they are rendred capable to resist the alterative Impressions of the Air.

Since then it is so obvious, that the Air is the principal external Efficient, you must necessarily apprehend, that where the Air is Salin and Scorbutic, the *Small Pox* proves much more malignant, and frequently mortal, and that, by reason the Blood becomes Lixivial, Saponary, and Absorbing, which to dispose to a *Diaphoresis*, or Breathing, by those hot, inflaming Cordials, is in some as impossible, as to force water out of a Flint; but on the contrary, the Salts of the Humors being rendred more Lixivial and Absorbing by them, they do not only through that absorbitive and droughtry Faculty exhaust and dry up the *Serum* of the Blood, but concentrate and terract, or draw in from the circumference those volatil fuliginous Salts engendred in the Air, which otherwise Nature is striving to cast forth; and hence it is, that old Women and Nurses by giving only large measures of plain moistening posset Ale, very small Ale boyld, or thin Fig-drink, prove infinitely more successful, than many if not most of Physicians: But now I must tell you also, that some Practicers, taking their measures from the event the management of Old Women doth procure, and the ill Exit that attends the advice of other Physicians, do abandon all those hot aduring *Species*, and distill'd Waters, and præscribe temperate moistening Diaphoretic Decoctions, and distilled Waters, whereby they deserve the Character of safe Physicians, scarce one in a very great Number stooping to the Conquest of his Distemper, and that by reason of less hurtful præscriptions. In fine, there are no principles, either those of Dogmatic putrefaction, or that of Fermentation, which to me do so evidently expound the causality and reason of all those

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Symptoms and Changes, that so ordinarily happen in the *Small Pox*, and *Measels*, than the *Hypothesis* I have propos'd; and what concerns the *Practical Indications*, they are such, that in *Success* and happy *Event*, I am confident exceed all others.

§ 3. The *Alexiterial* simples are *Rad. scorzon. bisp. Vincetox. fol. Galeg. Scabios. flor. Catend. sem. Aquileg. fruct. caric.* (in case of a Looseness or Vomiting *Rad. Bistort. and Tormentil.*) *aq. Card. Ben. Scabios. Malv.* the *Composites* are *Aq. Scord. compos. Diascord.* not that of *Fracast.* as it is set down in the *London Pharmacopœa* with the addition of *Pepper, Ginger, Cinamon, &c.* which must necessarily be very pernicious in this Distemper, *Spec. e chel. cancr. Diamarg. frig. Cardiac. Magistral.* and such like.

The *Decoct. Lent.* though commended almost in every Author, I am certain is not agreeable to this Distemper in our *Climat.* *Spir. Corn. Cerv.* particularly prepared, and *Elix. Antifibril.* are equal to any of the formentioned.

THE

THE APPENDIX TO THE SMALL-POX.

§ 1. **T**hat Hogs, Swine, Pigs, Hens, Chickens, Turkeys, Dogs, and perhaps many other Creatures are subject to the Small-Pox (the former to the Meazels also) and oft times more than once, has been abundantly remarkt by industrious and careful Housewives, by the perception of those Creatures being infested with red Pustles (though not very many) that in a short interval are dried up into some scabs: True it is, they are not apt to leave marks, or cicatrices (as we call them) for two reasons. 1. Because their blood being glutinous, and sweet, is the better disposed to be agglutinated, and to incarn those little cavities, which the lodging of the purulent matter, whereinto those pustles are converted, may have occasioned. 2. Their skin being covered with hair, or feathers, hinders the external or ambient air from drying, condensing, and hardning those little ulcers and *cicatrices*, through its nitrous coldness, before they are fully incarn'd and filled up; which is also the reason, why the body being kept warm in bed by Coverlets from the air, is less deformed with Pits, than the face; add hereunto, that by the foresaid warmth, the Pores being kept

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open.

open, a great part of the purulent matter is dissolved or discussed, which also happeneth in those fore-mentioned Animals, by reason of the Warmth, occasioned by their hairy and feathered Coats, and therefore have fewer and smaller Scabs.

§ 2. This præmised is only adduced ; first, to give you the reason of the Derivation of the Names of Swine, Chicken or Hen-Pox, wherewith Children or Boys are molested, resembling those fore-mentioned in most circumstances, and are *Re vera* Small-Pox, though generally not so malignant. Secondly, to corroborate my former assertion, that the cause of Small-Pox, is no way to be attributed to any particular impurity, the *Fœtus* doth attract in the Womb ; for (to argue a *Simili*) can any impurity be supposed to derive to the Chicken from the Egg ? Certainly, not the least, nothing being sweeter and more pure, than the Contents of an Egg shell. What impurity can there be imagined in a sound Chicken, a sucking Pig, or a well constituted Infant ? So that consequently, what doth generally surprize, once at least in the Life-time, all well or ill constituted bodies, must be derived from the external air.

§ 3. Moreover, if some particular impurity of the Womb (but what sort of impurity it may be, they know no more, than that it is *occult*) be the Original of the Small-Pox (of the Venereal I grant it) Why are not the *Indians* subjected to that Distemper, whose Mothers Womb using so promiscuous a commerce with many men, is much more impure, than of the Women in these Northern Climes, and yet never any *Indian* in his own Country was taken with the Small Pox ? I confess, were I to broach a
Position,

Position, partaking of far less improbability, I should rather choose to assert, that the Small-Pox was an hereditary Disease, derived from both Parents, who generally, as I said before, once in their Life-time, are attacked with it; so that if some of the Levaln (in the the *Neotericks* Phrase) of the Small-Pox be remaining in their Bodies, that might as well be propagated to their Issue, as that of the Stone, Gout, &c. Neither can this be conceded, in regard that those Diseases, which are actually termed hereditary, are not constantly conveyed by the Parents to all their Children; for it hath been observed in some, though both Parents have been afflicted with the Stone, yet all their Children have been exempted from it; and what is more, I have known a Child hail and sound, that afterwards grew up to years, conceived and begotten from Parents in that juncture, when both had most violent *Gonorrhoeas* running upon them. So careful and industrious is Nature, in preserving the *Species*, beyond the *individuum*. Wherefore if the Womb be so powerful and sedulous, in depurating the Seed, and attracting all its impurities to it self; also in transmitting no Juices or Humors to the Conception and *Fetus*, whose impurities are not separated and retained by the Womb (whence also it happens, Women are generally so sick and indisposed, during a great part of their Child-bearing) who, besides a dull ignorant, can believe the Small-Pox, to take its source from any impurity of the Womb?

§ 4. Possibly you will object, that some Children have been observed, brought into the World with the Small-Pox upon them, and consequently, that they had it in their Mothers Womb. I answer, this is false, but on the contrary, many Children

have been born clear and unblemish'd of the Small-Pox, whose Mothers were surprized with it in the time of their breeding. Now certainly, if a Child at any time be subject to acrimonious Diseases, arising from the impurity of the Womb, it could never escape them in the Case fore-mentioned.

§ 5. That the Small-Pox and Meazels, are only Seasonings of the Northern Air, and a Disease merely adventitious, caused by the admission of saline acid, and most acrimonious *Effluvia's* or Corpuscles into the body, through the Pores and inspiration, is further proved by this instance; those that go hence to the *East* or *West-Indies*, and continue there all their Life-time, were never known to have laboured under the Small Pox. On the contrary, all those Natives (as I said before) that are transported from *Guiny*, or the *Indies* into these Northern Tracts, after some continuance, most seldom or never do escape the Meazels or Small-Pox. Thus I remember between thirty and forty years since, I saw at the *Hague*, sixteen or eighteen *Brazilians*, which *Grave Maurits*, having been employed General of an Army in *Brazil*, by the West-India Company of *Amsterdam*, brought thence, who all died of the Small-Pox some few weeks after their Arrival. I will insist no further on that point, but pass over to some other remarks.

§ 6. The Small Pox sometimes proves a Sporadick, and other times an Epidemick Disease; the latter, especially in the Spring and Autumn, because at those Seasons, the Saline Particles in the Air, and the other *Effluvia* and Corpuscles therein contained, change their Position and Figure, (by reason of the Sun's motion into the Equinoctial Sign) which entering the

the Pores, cause an Ebullition in the Humors and Juices, through the opposition of the Figures of their Particles. Also the change of Air, of the Weather and likewise of Diet, by altering the temperament of the Humors, and changing the Figure of their Particles, thereby exerting an Effervescency or Ebullition of the Blood, and other Juices, is apt in some to protrude the Small-Pox and Meazels.

§ 7. The words Pox (*Pock*) and Meazels (*Ma-zen*) are Saxon, the former signifying a Pimple or Pustle; the latter red, Mother or Womb Spots (whence the *French* call them *Rougeolle*, and the *Italians Rougione*) and might be more properly applied to red Spots, which some Children bring into the world with them, or to the Red-Gum, being red Spots with roughness of the Skin, which most Children are subject to soon after they are born, and are not unlike those which are vulgarly termed Meazels. But its to be wondered, that this Red-Gum is not rather asserted by Physicians, to be occasioned from some impurity in the Womb, since it buds out so soon after their Birth; however, that cannot be supposed to be the cause thereof, since men, upon impure Diet, or going out into sharp Winds, are oft times troubled therewith, and in them is called *Papule rubintæ*.

§ 8. From the degree of malignity inhærent in the forementioned Saline aerial Effluvium's or minimal Corpuscles, and the degree of the ill disposition and temperament of the Bowels, Juices and Humours of the Patient, that is surprized by the Small Pox, Measures of the Differences, and Prognosticks of the said Disease are to be taken; for supposing those Salia Effluvia to be less acrimoni-

ous or corroding, less opposite to the Constitution and *Crafsis* of the Bowels and Humours, and the said Bowels not to be much *intemper'd*, nor opprest with abundance of vitiated Humours, in this case the effervency and Ebullition of the Blood must necessarily be very mild, and the Small-Pox or Meazels very benign. On the other hand, when the Air shall abound with very corroding Salin Particles, that are extreamly opposite to the *Crafsis* or temperament of the principal Parts, and of the Humours and Julces, that float through their Channels, adding hereunto, that the Patient is of an ill habit of body, κακόσπλασχν, and deep loaden with a Mass of vitious and putrid Humours; these circumstances do constitute a Scheme, that portends the highest malignity of the Small-Pox and Meazels, certain Death, and all attempts of Cure or Relief utterly frustraneous.

§ 9. These two foregoing Suppositions expressing the two Points, or extream degrees, within which the Small-Pox and Meazels do move, viz. of the greatest Benignity, and the worst Malignity, you are to calculate the intermediate degrees (whence also you are to frame your Prognosticks) from the nearness to the former, and the remoteness from the latter; so that if a man of a good habit of Body, having been temperate in the use of the six *Nonnaturals*, should in the Spring-time fall ill of the Small-Pox, granting the air not to be replenish'd with Salts very corroding or acid, we may naturally infer, that the Small-Pox cannot but prove benign on him, though not so benign as on a Youth or Child, that is likewise supposed to be under the same circumstances. Moreover, state the Air to be charged with very corroding venene Particles,

as this last Winter it was experienced to be, though the Pox should happen to a man that's young, robust, and of sound Bowels and Humours, if the said *Effluvia's*, should in great proportions be admitted within his body, the Distemper must necessarily prove very malignant, and oft times mortal (as at the forementioned season) unless it should attack an unseasoned body, by immission of small measures only of the said Salin particles, and then the Distemper might appear mild and benign. Thus I have known a young Gentleman in the hardest of the preceding Winter, and when the Small-Pox was discerned to move to a high point of Malignity, to go abroad with the Small Pox upon him, until being sent for, I advised him immediately to his Bed, where he passed through the Distemper without the least sign of danger.

§ 10. The Small-Pox is either malignant *per se*, or *per accidens*: And because this distinction is of great importance, the passing it by superficially, might justly be censured a neglect. The meaning of the first branch is already declared, and asserted to be chiefly derived from the extream subtil corrosive, or venenous quality of the Salin Corpuscles, floating in the ambient Air, exerting their malign Operation on our bodies, in proportion to the degree of pravity of disposition of Humours and Juices therein contained. Thus I have known the Small Pox so malignant *per se*, in a Boy of seven or eight years of age, that besides a continual *Delirium*, were attendant a bloody Urine, a most putrid scetid looseness, the Pox hard, stubborn, and blackish deep red, turning to a livid, interspersed with black Meazels, or *Exanthemata nigra*, like those which in the Plague are called Tokens, though they were not absolute.

absolutely Tokens, in regard this Distemper was not universally contagious, excepting to those that never had passed the Small Pox; besides, there was a little asperity in the midst of those small round black Spots, and therefore ought to be termed black Meazels. Moreover, his Pulse was very languid, low, unequal in motion and strength, sometime very quick, other times slow, a great asperity of the throat, and many other pernicious Symptoms.

§ 11. The Small-Pox are too frequently malignant *per accidens*, either through irregularity of the Patient, neglect of the Nurse, or error in the Physician, which latter is not uncommon, and therefore it's no wonder, the good Women do so oft exclaim against tampering.

The error committed by the Physician, is either in Bleeding, Purging, stopping the Pores, (by cooling the Air, through taking off Coverlets, drawing back the Curtains, setting open the Chamber-doors or Windows, removing the Fire from the Hearth) in giving Hypnoticks or sleeping Medicines, in prescribing cooling Acid Juleps; or on the other hand, by overheating Medicines under the notion of driving out, and Alexipharmacal Cordial Juleps, Powders, and Eolulies, and lastly, by the ill ordering of their Diet; of these, I shall hereafter particularly discourse.

§ 12. The Small-Pox appears, either without any kind of Fever, or attended with a simple or malignant Diary. a continual imputrid Fever, a continual putrid Fever, or with a continual putrid malignant Fever. The first sort of appearance, happens sometimes in Boys or Children of a good healthy

healthy Constitution, and sound strong Bowels, without the least lassion of the functions of the parts; the Pox not many in number, though large, round, and florid, and easily maturable; but then they are subject to several returns of them; upon the interval of two or three Seasons, and sometimes upon the distance of two, three, four, or five years. Moreover, after their being scaled off, they are disposed to thrust out Blotches, Boyls, Splashes, and other impure Eruptions, even sometimes before they are all scab'd. The Meazels come also under the same distinction, set down at the beginning of this Paragraph, and now and then are found æqually dangerous and lethiferous to malign Small-Pox, and are of the same nature and Origination with them, receiving their difference only from the different disposition of Humors and Juices.

§ 13. The Meazels are known by red Spots, like Flea-bites, having an asperity or a sharp little rough head in the middle, wherein they are distinguished from *Exanthemata rubra* (*ostechia*) in the Spotted Fever, which again are distinguished from common heats, by the malignant Fever that attends them, viz. the *Exanthemata*. I am the more particular in this distinction, because Mistakes are frequently made by Doctors, though not Physicians; for there are many Doctors, but few Physicians.

§ 14. You are likewise to remark, that the Small-Pox appear sometimes attended with Meazels, Splashes, (*maculae rubrae*) and Boyls (*Phymata*) all together. Othertimes you have the Meazels præcursing, and the Small-Pox at the heels of them. In some, you have a high Fever, soon followed with the eruption of large red Splashes, (that by
some

some Doctors, hath been mistaken for a Scarlet-Fever) which, unless the Patient be ill treated by Bleeding, Glystering, and acid Juleps, are seconded with the Small-Pox.

§ 15. Though the usual time of eruption of the Small-Pox and Meazels is the fourth day, yet they are observed in some to appear the first, second, third, fourth, fifth, sixth and seventh day. I had once a Patient, in whom the Meazels sprung out the one and twentieth day of her Fever, being at the end of its declination. The sooner the Small-Pox or Meazels break forth, being competently numerous, between soft and hard, easily maturable and florid, the less danger they import. But the longer they continue hidden (especially when you can feel them under the Skin) it expresses the greater malignity and weakness of nature; if they prove hard, and consequently, of difficult maturation, their number commonly then is small, and signifies a dangerous event; if they appear soft and low, tending to flatness, it's a sign they will strike in again; all other Colours, besides a florid red, are ill, though the Violet, Olive and Black are the worst. A violent Fever, Hæmorrhage at the Nose, Faintings, Looseness, Vomitings, difficulty of Breathing, and Raving, before the Small-Pox or Meazels break forth, commonly cease, or at least, do very much abate upon a plentiful eruption of them; but if the forementioned Symptoms survene upon their eruption, or continue after the eruption, then the danger is far greater, and they threaten Death, as do also Convulsions, Startings and Tremblings; Drowsiness is not so dangerous in many, in some few it may.

§ 16. In those that prove mortal, most dye between the ninth and fourteenth day, and some have miscarried the fifteenth, seventeenth, and any other day on this side twenty; for though after the fourteenth day is passed, seldom any danger is observed; yet many by neglect, irregularity and error, have been snatcht from their Physician. Thus it has happened, that a young Lady, upon taking a Glyster or two by advice, after the fourteenth day, and all danger of the Small-Pox were passed, according to the judgment of the unskilful Physician, notwithstanding expired; the cause is this, though the Pox are all dried and scaled, yet those malign evaporations continue to transpire out of the Body through the Pores, for seven or eight days after, which being struck in by external Cold, or shifting of Linnen, or drawn to the central parts by Glysters or Purges, may easily kill a Body already weakned and enervated by Sicknes.

§ 17. The eleventh day hath been observed by Physicians, to be the most dangerous, at which time they will tell you, a new Fever ariseth (by others termed a second Fever) occasioned (as *Willis* asserts) by the stopping of the Pores through the Small Pox, which then commonly are at the height, and bring the Sick into the greatest extremity, wherein many dye. This, as to the danger is true, but its not to be believed to happen through the occlusion of the Pores; for many at that time are found to be in a breathing Sweat, and not perhaps, to have any great number of Small Pox, which cannot then be in any proportion to stop the Pores; so that there must be a truer reason given, which is, that the Small-Pox at the height, are chiefly on their maturation, that (as we may take notice in almost

most every little Boil) causeth pain and a Fever (which is symptomatick) according to the Aphorism of Hipp. 47. lib. 2. *Dum pus conficitur dolores atque febres incidunt*, &c. The Spirits being intent upon the maturation of the Pustles, in the circumference and external parts, the internal and central parts are deprived of Spirits sufficient to throw out the malignant Salts to the *Cutis*; whereupon, through their extream acidity, necessarily happens a curdling or coagulation of the Humours within, especially about the Lungs, which causeth a difficulty of circulation, and consequently, a great difficulty of respiration, and thereupon suffocation and stagnation of the Blood.

The said malignant Salts, if moving to the Guts, occasion a Looseness; if to the Kidneys, Bloody Urines; if to the Brain, a *Delirium*; if to the *Dura Mater*, a *Hæmorrhage* at the Nose; the Prognostick of which Symptoms hath been told you before.

§ 18. The Small-Pox, that is concomitated with a simple Diary (I mean a *Diaria unus*, or *Plurium Dierum*, as Authors do barbarously term it) implies no danger, but with a malign Diary, where the Urine and Pulse do so exactly resemble those of healthy Bodies, and yet malignant Symptoms are præsent, imports the greatest of Dangers.

The Small-Pox, with a continual imputrid Fever (which is most common) is not dangerous, though with a putrid Fever, or a malign Fever, threatens the worst of Events. Wherefore, to extract your curative indications, according to the true *Methodus Medendi*, you ought to discern strictly, what sort of Fever attends the Small-Pox.

§ 19. My

§ 19. My next Affair is to examine the errors committed by Physicians; and first, whether Bleeding in the Small Pox and Meazels before the eruption, be hurtful or advantageous. This doubt may easily be resolved, upon consideration of the effects of Bleeding, and the indication of the malign Miasms, that occasion the Small Pox. Bleeding doth together with the extraction of the Blood, diminish the Vital and Animal Spirits, and draweth the malign Salts, towards the Center and Bowels; whereas the foresaid Salts indicate expulsion towards the circumference, and the support, relief, and comforting of the vital and animal Spirits; so consequently, nothing can be more pernicious than Phlebotomy. You may object, that Bleeding abates a Plethory, too violent Ebullition, Putrefaction, and Præternatural Heat, opens the Pores, ventilates the Blood, reserates Obstructions, &c. all which the Fever in the Small Pox seems to indicate. I answer, that the chief curative Indication is to be desumed from the cause of a Disease, and therefore in an essential continual Fever, where, according to the Phrase of *Galen*, Plethory, Putrefaction, Obstructions, and Constipation of the Pores are the causes, bleeding is properly indicated; but in a Symptomack Fever of the Small pox, whose cause is malign Salts, expulsion is indicated, and all Remedies that attract to the central parts, are counterindicated. Here may be replied, that it is very difficult to be discerned, whether the Fever, before the appearance of the Small-Pox, be essential, or Symptomack; and consequently, if it should prove essential, the omission or delay of so great a Remedy, would prove a vast Detriment; besides, bleeding cannot be supposed to draw inwards, in such a Symptomack Fever, before the Small Pox appear.

appear. To this is answered, that where the Small-Pox is epidemick, it is no more difficult, to distinguish a Symptomack Fever from an essential, than in the Plague, and who will rashly resolve to Bleeding in a pestilential Season, where the Patient is taken with a Fever? Moreover, where the Small-Pox is Sporadick, he that, besides the common Signs and rational Conjectures, makes use of his own Observations, cannot readily mistake; especially if he will take the pains to make an exact scrutiny. As to the last part of the Reply, though Bleeding before the appearance of the Small-Pox, cannot so properly be said to draw in, yet it may retard and hinder their expulsion. But I will make this further Objection to my self, that a Hæmorrhage at the Nose, doth for the most part give great relief, before the Small-Pox breaks out, in removing the great Head-ach the Patient is afflicted with, and taking off some part of the burthen from nature; whence, afterward the expulsions proves more easie, and the Sick commonly do well; if so, Art being to imitate Nature, we ought to Bleed before the eruption of the Small-Pox.

§ 20. This Argument seemeth to carry some force, as the case is here stated; but suppose a Patient to be vehemently afflicted with the Headach, violent pulsation of the temporal Arteries, a great Heat all about his Head, a very high Colour, red Eyes, &c. if you bleed him in the Arm, you hinder nature in the Hæmorrhage at the Nose, and draw that sharp Salin Blood inwards; for you must not suppose, that by detracting blood out of the arm, you do take away that sharp volatilized Salin Blood in the *Sinus's* of the *Crassa Meninx*, which occasions those Symptoms in the Head, but you draw away

way Blood that is not so sharp and inflamed, from the *Vena Axillaris*, the *Subclavia*, and consequently, from the *Vena Cava*, into whose room the foresaid Salin Blood succeeds, and therefore you must conclude, that Phlebotomy in the Arm, Neck or Feet is pernicious ; if then in this case you propose to imitate Nature, nothing remains, but to procure a Hæmorrhage at the Nose, by gentle Errhines, Sternutatories, by irritating or pricking the Nostrils within, and even this would prove very suspicious, in regard a Hæmorrhage at the Nose, if it should happen to be violent, or to continue long, is not easily stopt in the Small-Pox ; so that it's best to leave it to Nature, and not in any wise to advise Bleeding.

§ 21. A third Objection, is (from Experience) that in *France*, Phlebotomy is commonly celebrated with success, and here in *England*, some have been blooded, who have escaped. In answer hereunto, you must consider the difference of the Climate, Bodies, six Non-naturals ; and benignity of the disease, for in *France*, the Air is thinner, clearer and warmer, the Salin particles in the Air less malignant, their Bodies are more transpirable, their Humors not so gross nor fibrous, their Plethory of Blood greater, their Food upon Bread and Wine plentifully increasing their Juices, all which, and other Circumstances, may among some, argue for indemnity for Bloodletting ; and if the same experiment hath been used here in *England* without great detriment, it was in Bodies whom nothing could kill. After all, it may so happen among a very great number, that one having a Distemper complicated with a Fever before the eruption, wherein the omission of Bleeding may import an equal or greater danger then the allowing of it, and then

then Phlebotomy must take place. The *Quære* may be further made, whether after eruption, bleeding be not necessary in some cases, as where there is danger of suffocation, or a great Hæmorrhage at the Nose, a constipation of the Pores, or a very high Fever? The frequent tryals of it on many, and those of the greatest quality, gives you a positive answer; and the question is much the same, whether Phlebotomy be not proper in a pestilential Fever, after the eruption of Buboes, Parotides, Tokens, (*Exanthemata nigra*?) and even here there is oft present danger of suffocation. Certainly, none but a mad man will admit the said Remedy, though upon some, it has been practised in the Plague, without the fatal consequence; but then it was on those, who (as the Puritan saith) were ordained for Life, or as I said before, whom nothing could kill. As for the Suffocation, which is the common prætext for bleeding, its caused by the coagulation of the Blood, through the malign Salts in the Lung Vessels, which obstructing the Circulation, and stopping the Pores of the whole *Parenchyma*, retains within all the Steems, Smoaks, and *Fuligines*, intercepts the fresh Air, that should ventilate the Blood, and loads the Lungs with an insupportable Weight, whereupon a total Stagnation, and consequently Death doth oft ensue, if it continues any time; now the prætext is, that bleeding doth make room for the coagulated Blood to circulate, ventilates it, and opens the Pores of the *Parenchyma* of the Lungs, so that commonly happens a sudden relief upon Bleeding, but of a short continuance, which past, the Suffocation returns with a far greater violence (the malign Salts being in a greater proportion drawn in by Bleeding, and the Spirits together with the Blood exhausted) hereupon stagnation of the Blood, and then Death. In fine, a Physician had better

better with a Beagle, knock his Patient on the head, then bleed him after the eruption, for the other is the quicker Remedy.

§ 12. Since the thread of my Discourse hath led me to the Exposition of this dangerous Symptom, give me leave to annex another sort of Suffocation, which happeneth oft on a sudden, not only in the Small-Pox, but also in malignant Fevers. To the right understanding hereof, you must by Suffocation, apprehend the suppression of Respiration or Breathing. *Respiration* is performed by the Lungs, receiving, attracting, and expelling the Air. The reception and attraction of the Air, is called *Inspiration* (the Lungs being then expanded) the Expulsion *Expiration*, at which time they are complicated or contracted. The Heart by pulsation, throwing blood into the Lungs, is the principal moving Cause (*Causa movens*) of *Respiration*, and the chief Instrument (as the ancients have observed) or rather the efficient Cause, is the *Diaphragma* or Midriff. The Lungs are properly the Instrument. The Heart by its *Systole*, throwing impetuously hot ebullient blood out of the left Ventricle, through the *Arteria Pulmonalis*, improperly called *Vena Arteriosa*, into the Lungs, which continuing on fills up, and also keeps filled (for as fast as the Blood is emptied into the right Ventricle, by the *Diastrale*, it is supplied again out of the left by *Systole*) the *Parenchyma* of the Lungs, through the Pores whereof, and of their ambient membrane (for that is largely porous also, as appears in a penetrating Wound of the *Thorax* or Breast, at whose Orifice wind will come forth, manifestly shewed, by holding a lighted Candle or Feather near it, which could not be, unless the Air that's attracted by
inspi-

inspiration, passed through the circumvestient tu-
 nic) a crowd of hot Salin volatil and fuliginous
 Steems, ricking out of the blood, and passing to the
 Diaphragm though the Pores of its Tunic, punge and
 vellicate its nervous Fibres to a contraction, from a
 convexe in the middle to a plain, though about the
 circumference, the Sides move upwards, where-
 by the Ribs are drawn upwards and dilated.
 The Lungs being like unto a Sucker in a Pump, is
 in the same manner attracted or drawn by the
 Diaphragm, as a Sucker by the motion of the Han-
 dle of a Pump, and as the Water by adhesion fol-
 lows the Sucker, so doth the Air the Lungs, when
 expanded by the subtraction of the Diaphragm,
 whereunto the Air it self seems also to contribute
 much, as naturally crowding into any cavity. This
 is the manner of *Inspiration*. The Fibres of the
 Diaphragm being contracted, or rather, as it were,
 a little overcontracted, do by a rebound result or
 leap back (at the latter end whereof they are
 relaxt) like unto a Spring of Iron or Wier, which
 being by pressure contracted, upon the withdraw-
 ing of your hands, doth violently and swiftly re-
 bound; in the same manner, a Bow being contracted
 by drawing the String, upon the letting it slip,
 violently rebounds. And therefore it is, that
 the *Expiration*, as any one may easily observe
 in himself and other animals, is much stronger and
 quicker than the *Inspiration*; it being necessary it
 should be so, because the Air naturally crowding
 in, must be violently expelled. To this resulting
 or rebounding motion is much added, by the pres-
 sing down or natural gravity of the Bowels in the
 lowermost *Venter*, and the retorted motion of the
 Muscels of the *Abdomen*, that by the contraction,
 of the Diaphragm and the Distention of the Ribs
 by

the Intercoſtal Muſcles were violently liſted up in the *Inſpiration*. How far this is a Natural Action, and how far Animal and Spontaneous, or in Men voluntary, it's not material to inquire here; alſo whether the Heart of a *Fœtus in utero* doth pulſate, ſince its Lungs do not reſpire; or if it Pulſates (which is very dubious) in what manner the Blood doth circulate; or whether the Lungs of a new born Child ſwimming in a Baſon of Water, be not a ſign it was born alive: Theſe, and many other Doubts, I commend to Dr. *Fœtus* at *Paris*.

This Illuſtration is only adduced to ſhew you, how various ways Suffocation is poſſible in the Small-Pox, or any other Diſtemper; *viz.* either by coagulating the Flood in the Lungs, or by being ſmothered by too great ſmoaks and ſteam, ariſing from the over-boiling Feveriſh Blood, or by the malignity falling upon the Diaphragm, or upon the Nerves that are inſerted into the Diaphragm, or by the Small-Pox breaking out in the Lungs, and the *Aspera arteria*: Beſides theſe, many other difficulties may be reſolved, and made eaſie by the fore-mentioned action of *Reſpiration*.

My next *Quære* is, Whether Purging be proper in the Small-Pox before eruption, ſuppoſing the Patient of an ill habit of Body and a ſoul Stomach, which if not evacuated in the beginning, and before the eruption, may render the Fever higher, and the Small-Pox more malignant.

Though Purging cannot be deemed to retract the Small-Pox, yet it may prove a diſturbance to Nature, whiſt buſied in ſeparating thoſe malign Particles, and preparing them for eruption; therefore unleſs a great cacochymy ſhould indicate Purgation by a gentle Cathartick or Laxative, it is more ſafe to omit it, eſpecially after the ſecond or third day;

and yet where Crudities about the Stomach and Guts are suspected, an emollient Glyster on the first or second day, may be advantageous. As for purging after the Eruption, whilst the Blood continues still in a high Ebullition, nothing can be presumed to raise it higher, to hinder Digestion, or to cause a more forcible retraction of the malignity from the circumference to the Center, than purgation; and yet I have heard of those, who have been smartly purged by their Doctors, upon supposition that the Cacochymy hinder'd a more plentiful Eruption than what appeared, which Remedy may be one in ten hath survived, who would have done much better, had a more proper Medicine been given; but to some Doctors, because they are of the Faculty, *Quidlibet audendi semper fuit æqua potestas*; though in other Countries they would be recompenced with a Banishment, or a Halter, should they thus trifle with Mensskins, and try Tricks and unaccountable Experiments upon Humane Bodies.

The malignity being to be thrown out to the circumference and external parts, the Pores of the Body are to be kept open by warmth and moderate heat, and therefore the Air in the Room of the Sick is to be render'd warm, and the Patient covered with Blankets sufficient to keep open the Pores; though where the Fever is high, and the smoaks and evaporations of the Body very thick, a temperature of Heat must be procured, by laying fewer Coverlets on the Bed, lest too many keep in those smoaks and evaporations, and so choak up the Pores: but we must not run to that extrem of Madness, to draw back Curtains, open Windows and Chamber doors, where the fresh Air entering, shall not only stop the Pores, but convey more malign Particles into the body.

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Whether Hypnoticks may be safely given in the Small-Pox, before and after the Eruption, is a moot Point that deserves consideration; for on the one hand, granting that sometimes the animal and vital Spirits, through the violent commotion of the Humors and malign Particles, are so extremely broken, dispersed, ruffled, and inflamed, that by being very much disturbed and put by in their task, are rendered incapable of digesting the crude Humors, separating and expelling the Malignity, whence a *delirium*, want of sleep, anxieties, suffocative respiration, and sudden lapse of strength do ensue; an Hypnotick prescribed with discretion, composes the too high Ebullition, quiets the Spirits, and gives them occasion to rally and reunite, whence afterwards they do more ordinally return to their office of digestion, separation, and expulsion, and those fore-mentioned Symptoms oft immediately abate or quite vanish. Besides, an Opiat judiciously given, seems to contain all the properties necessary in the case predicted, *viz.* besides the quieting of the Spirits, and putting a truce to the Combat; it binds the belly, and prevents Hemorrhages, Vomitings, and Loosnesses, and promotes Sweat, according to the common Saying of Physicians; *Opium omnis evacuationis supprimit, præter Diaphoresin*, which Virtues are oft very necessary in a Medicine, to prevent such Symptomes as prove commonly so mortal. But on the other hand, where Hypnoticks shall be exhibited rashly, immoderately, and *à propos*, they must necessarily render the Spirits torpid, drown them, and wholly prevent them from Digestion, Separation and Expulsion, coagulate and cause a stagnation in the blood, tye up and concentrate the malign Particles, suppress Respiration, whence unavoidably must happen coagulation, and stagnation of the

blood in the Lungs, and other parts, and thereupon death. Thus I remember at *Paris*, some few years past, that one Physician killed another lying sick of the Small-Pox, in a benign Season, by large draughts of raw small Beer, throwing off the Bed cloaths, cooling the Room, and giving him every day four Ounces of *Diacodium*, besides drops of *Laudanum Liquidum* at night; & this was continued so long, until the sick Doctor being rendred Lethargic, or Comatous, could speak no more sense but this, Doctor, *Diacodium* hath kill'd me, and I will take no more of it; afterwards the Scene was altered, so that the *Agent* Doctor thought it his best way, now to ply the *Patient* Doctor with drops of Volatile Spirits of *Cranium humanum* six Months digested, of Harts horn, and *Sal Armoniac*, but to no purpose, for no remedy under Heavens was capable to save him. So barbarous a Treatment in the Small Pox, I never heard before; and what was more surprizing, was the report, that the *Agent* Doctor never passed by the House, where the dead Corps of the *Patient* Doctor lay, but blood would purge out at his Nose: a most remarkable Instance, as if the dead accused the living of his Blood. This Gentlemans death, if ever any, gives the most probable proof of Fate; for in his life-time he expressed to me more than once, that the new killing method in the Small-Pox, of opening Curtains, Windows, and Doors of the Room, and giving cooling Juleps and *Opium* in such great Doses, with a *continuando*, was so unheard of cruel, that he wondered the Magistrate did not interpose their Authority. Moreover to confirm this, he did aver, that whilst he lodged in the *Agent* Doctors House, sometimes two Corps dead of the Small-Pox a Week, were carried thence to the Grave, on whom, as he called it, this Killing method was used; yet notwithstanding,

standing, that he should submit himself to the same Killing method under the same Doctor, resembled the fate of the Heathens, the most of any Example Fever met with.

Hitherto I have insisted on the Errors of the new Improvers of Physick, it is convenient I should also make some Remarks on the old *Galenical* method, which chiefly indicates driving our, and Diaphoretic Alexipharmacal Medicines. And here is to be observed, there is scarce any method or remedy, but is apt to be over-done by a certain number of Physicians, who imagine, that the stronger the Diaphoretic is, the more proper it is to throw out the malignity; and to that purpose you shall have prescribed by several of 'em Juleps, I have seen in this proportion. To *Aq. Dracunt. ulmar. Card. Ben.* or to any two of them, was added *epidem.* the same measure, *Tinct. Croci* a sixth part, *Discord. Theriac. Lond. Theriac. Andr. Spec. & Theriac. comp.* a good large quantity, with *Syr. Caryoph. or Melis. comp.* This to be given four or five spoonfuls every second, third, or fourth hour. This not succeeding (*pro voto*) there was to be drop every two hours, or sometimes every hour, *Spir. Corn. Ceru.* 20 drops. Besides, a good strong Cordial Julep, wherein *Aq. Stephani, Spir. Cinamon.* bore a great part; every night a *Bolus* of *Theriac. Andr. pulv. serp.* or *Lapis Contrajerv. Lap. Bez. &c.* from the force of these hot burning Medicines was expected, the Small-Pox should be thrown out plentifully, whereupon the high Burning Fever ought also (as they imagined) to remit; but instead of these great hopes, the Small-Pox broke out less, and many retracted. One Error sprung from the obstinate Opinion of such a Physician, begetting a greater; these hot scorching Cordials are to be increased in

their Dose to that height, until either the Patient was suffocated, fell into Convulsions, a Hæmorrhage, Syncope, or great Loosness, and so a Dios. This method succeeding so frequently ill with some Physicians, put others upon using Alexipharmacks and Diaphoreticks, that were more temperate, which indeed in benign Small-Pox had a good event, and so would have had, though the care had only been committed to the management of a good Nurse, under the use of the Harts-horn and Mary-gold Posset, or Fig-drink, the Saffron-stay, Water-grewel, or Sugar-sops, and a warm Room. But where the Small-Pox partaked of any great Malignity, this temperate method brought no assistance, for the Patient notwithstanding dyed; yet as it did no great hurt, it did no hurt, whereas the other was absolutely destructive. Moreover, this Temperate Method, where people know no better, is commendable; for by that leaving the work almost wholly to Nature, many do escape, and so would many hundreds more, were they not killed by Bleeding, Purg-
 ing, acrid Salts, Narcotics, Inflaming Cordials, &c. These rendering the Blood soapy, lixivial and dry, instead of promoting a *Diaphoresis*, do rather concentrate, embarrass the Spirits, & lock up the malignity, inasmuch, as I said before, that you might sooner force water out of a Flint, than the least Sweat out of such Patients; neither can you expect any digestion, separation, or expulsion of malignity by such contrary Medicines. By Digestion you are not to understand the digestion of malign Particles (for they are indigestible) but of those Heterogeneous Humors, wherein they are enveloped, which being afterwards separated and expelled, carry out the malignity with them: so that the Error above-mentioned, consists in this depraved notion, That the malignity must be

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expelled, before the Fever can be abated ; whereas on the contrary, experience tells us, that the Fever must be remedied before there can be any sufficient expulsion : But by what means is this to be done ? Not by acid Juleps, nor volatill Alcalies, nor inflaming Cordials, nor little insipid temperate Draughts: What then ? I answer, by Medicines that digest the Humors, and at the same time infringe or obtuse the malign Salts ; this done, the separation and expulsion will follow of themselves, or at least the continuation of the same Remedies will promote them, and vigorously assist the Spirits in performing them. Since the common tribe of Medicines doth not contain any, that are endued with those requisite Vertues, some have endeavored to find it in Antimony, to which purpose they have oft exhibited it prepared, by calcinating it into fixt Powders, whereof the one is red, and others are white : The former is nothing but a *Regulus*, by admixture of some particular Ingredients fixt and calcined into a red weighty fused Mass, and afterwards powdered and washed. The other is the common *Antimonium Diaphoreticum*, and *Biszaccharicum Minerale*. Of the red *Regulus*, and the *Antimonium Diaphoreticum*, some have given from 20 to 60, and 80 grains, hoping by the great Dose to do wonders. I confess, there is a great matter in *Antimony*, though I must also tell you, the Medicines prepared of it are the most uncertain in their Operation ; for let them be never so new and well prepared, I have oft known, that in the ninth or tenth Man, more or less, they have Vomited, or wrought violently by Stool ; and of how dangerous a consequence that is, I have already shewed you: Therefore let me rather advise you, If you know no better Medicines, and will needs use them, never exceed 15

or

or 20 Grains of the one, and five or eight of the other, though you give them the oftner. But after all, these are not the Remedies that will do in many cases; neither have the gross of Physicians yet discovered them; though for their encouragement to dive and search, I am very well assured, there are two or three Medicines that are exactly virtuated with those Requisites, and do not only serve in the Small-Pox, but all other Malignant and Pestilential Fevers. Supposing a violent *Hæmorrhage* of the Nose surpriseth the Patient after Eruption, here may be demanded, what is to be done? If you exhibit a Narcotick, there is danger of Choaking; if an Astringent Medicine, you suppress the Eruption of the Malignity: If you continue in driving out the Malignity by Diaphoretick and Alexipharmacks, you subilliate the Mass of Blood much more, and so increase the *Hæmorrhage*: What then? There is but one Drug that ever I could hear of, which stops bleeding powerfully, and promotes Transpiration; but I commit that also to your industrious Inquisition.

In the Conclusion, I am only to communicate this Remark, that in Bodies recovered of the Small-Pox, that hath been Malign, a putrefactive and corruptive Dreg is oft remaining (or ferment, as the vulgar styles it) which occasions either immediately foul Ulcers in the Legs, Face, Eyes or Nose, or some time after the Kings Evil, Joint Evil, a *Psora*, Bastard Leprosie, and many other Distempers, which perhaps may not appear until some Years after; wherefore to prevent this, do not only Purge such Bodies well and oft with proper Catharticks, but advise them likewise to Traumatick Decoctions, or Tinctures to be continued for 21 days, thereby to depute their Humors, and prævent so great an Entail of Diseases as may ensue.



